SONY

CAMERA CONTROL UNIT

CCU-370P

OPERATION AND MAINTENANCE MANUAL

1st Edition (Revised 6)

Serial No. 40001 and Higher

EBU N-10 LEVEL

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Section 1. OPERATION

1-1. Overview

The CCU-370P camera control unit processes the signals collected by the newly developed BVP-370P/270P 3-chip CCD studio/OB color video camera. In the BVP-370P/270P camera system, separate units are used for signal processing and control. Therefore, in addition to this CCU for signal processing, the system also requires the MSU-350 master setup unit or an RCP-3700 series remote control panel for signal control. The MSU and RCP may be used together in parallel or split control mode.
The CCU-370P has the following features:

Variety of video inputs and outputs
The CCU-370P provides four independent VBS outputs including one which can be switched to a VB signal. Wideband R, G, and B signals for the chroma keyer, Y, R−Y and B−Y signals, and signals for a waveform and a picture monitor are also available from this CCU.
With respect to inputs, the unit can receive two return video signals and a video signal for teleprompter. It can also mix the return video and camera signals.

External sync function
The unit can be locked to an external reference signal in the form of VBS or BB.

Built-in color bar generator
A built-in color bar generator generates EBU 75% or 95% color bar signal according to the setting of an internal switch.

Power supply unit designed for safety in operation
When a camera is connected to this unit with a triax camera cable, the unit supplies first a low-voltage power of 30 V dc to check that the camera has been correctly connected, then the specified voltage of 240 V ac.
The unit is also provided with alarm lamps which light to indicate opening or short-circuiting of its connection with the camera.

Various audio connections
The unit is provided with two-channel microphone outputs and a program audio input. It can be connected with two separate 4 W intercom systems for simultaneous use. With options, it can accommodate CLEARCOM, 4 W and 2 W intercom systems.

Camera cable extendable up to 3000 m
The unit and the camera head is to be interconnected by a triax cable. The maximum allowable length of triax transmission line varies as follows depending on the cable used:

Triaxial cable	Maximum allowable length
Fujikura φ14.5 mm	3000 m (2400 m*)
Belden 9232	2250 m (1800 m*)
Fujikura φ8.5 mm	1500 m (1200 m*)

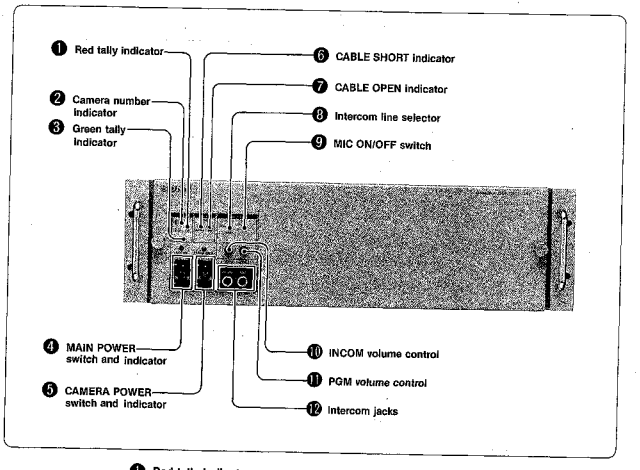
* For transmission of return video signal.

Rack-mountable
The unit can be mounted in a 19-inch rack (three units high based on the EIA standard).

Plug-in type block configuration
The power supply block makes up a plug-in unit and the main printed circuit board is designed for easy insertion and removal, thus facilitating maintenance.

1-2. Locations and Functions of Parts and Controls

1-2-1. Front Panel


1 Red tally indicator
2 Camera number indicator
3 Green tally indicator
4 MAIN POWER switch and indicator
5 CAMERA POWER switch and indicator
6 CABLE SHORT indicator
7 CABLE OPEN indicator
8 Intercom line selector
9 MIC ON/OFF switch
10 INCOM volume control
11 PGM volume control
12 Intercom jacks

1 Red tally indicator
This indicator lights in red when a red tally signal is received or when the CALL button is pressed at the camera head, master setup unit or remote control panel connected to this unit.

2 Camera number indicator
Attach to this indicator the number plate (supplied) corresponding to the number of the connected camera.

3 Green tally indicator
This indicator lights in green when a green tally signal is received.

4 MAIN POWER switch and indicator
The power supplies to this CCU and other units of the camera system, such as the camera head and remote control panel, are turned on and off using this switch.

❺ CAMERA POWER switch and indicator
When the MAIN POWER switch is set to ON, setting this switch to ON and OFF turns the power supply to the camera head on and off. If a remote control panel is connected to this unit, the camera head cannot be turned on and off with this switch unless the CAM PW button or indicator of the remote control panel is on.

❻ CABLE SHORT indicator
This indicator lights to indicate that overcurrent flows in the camera cable or that some part in the unit is short- circuited.

❼ CABLE OPEN indicator
This indicator lights to indicate that no camera cable is connected to the CAMERA connector on the rear panel or that no camera is connected.

❽ Intercom line selector
PROD: For communication via the producer line.
PRIV: For off-line communication only with a person at the camera head.
ENG: For communication via the engineer line.

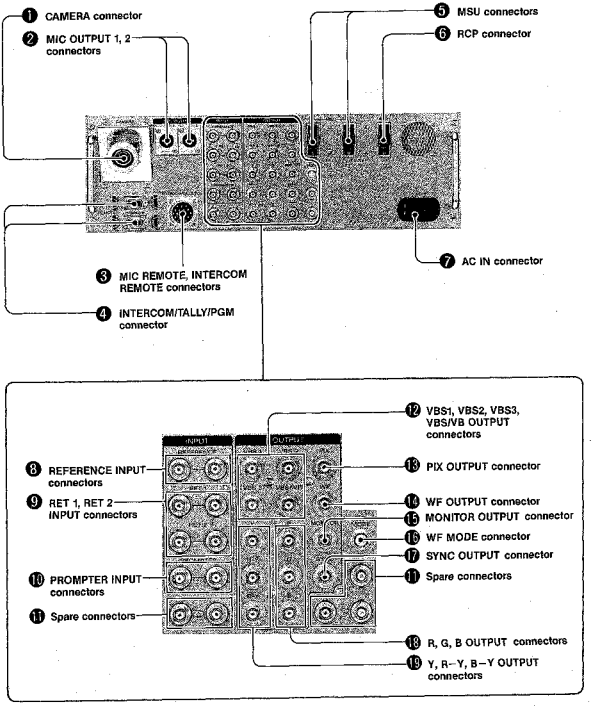
❾ MIC (microphone) ON/OFF switch
This switch is used to turn on and off the microphone of the headset connected to the intercom jack.

❿ INCOM (intercom) volume control
Used to adjust the intercom level to a headset.

⓫ PGM (program audio) volume control
Used to adjust the program audio level to a headset.

⓬ Intercom jacks (double jack)
Used to connect a headset. The right-hand jack is for program audio and the left-hand one is for intercom.

1-2-2. Rear Panel


1 CAMERA connector
2 MIC OUTPUT 1, 2 connectors
5 MSU connectors
6 RCP connector
7 AC IN connector
3 MIC REMOTE, INTERCOM REMOTE connectors
4 INTERCOM/TALLY/PGM connector
INPUT
OUTPUT
12 VBS1, VBS2, VBS3, VBS/VB OUTPUT connectors
8 REFERENCE INPUT connectors
13 PIX OUTPUT connector
9 RET 1, RET 2 INPUT connectors
14 WF OUTPUT connector
15 MONITOR OUTPUT connector
16 WF MODE connector
17 SYNC OUTPUT connector
10 PROMPTER INPUT connectors
11 Spare connectors
11 Spare connectors
18 R, G, B OUTPUT connectors
19 Y, R–Y, B–Y OUTPUT connectors

❶ **CAMERA connector (Fischer type)**
This is a triaxial connector used to connect a BVP-370P/270P color video camera to this unit with a triaxial cable. The power, control signals, video signals, and audio signals are all conveyed via the single triaxial cable between this unit and the camera head. The CAMERA connector block comes in several types and they can be replaced by one another, making it possible to use this unit with any type of triaxial cable connector.

❷ **MIC (microphone) OUTPUT 1, 2 connectors (XLR 3-pin)**
The signals picked up by the two-channel microphone system at the camera head are output from these connectors.

❸ **MIC (microphone) REMOTE, INTERCOM REMOTE connectors (D-sub 9-pin)**
These connectors are used to remote-control a microphone and an intercom system.
MIC REMOTE: The MIC gain of the camera head can be controlled, via this connector, by five steps (0/−6/−12/−18/−24 dB) from an external controller such as an audio mixer according to the audio condition at the time of shooting. It can also be set from the internal circuit board panel of this unit.
INTERCOM REMOTE: Intercom controls such as muting, producer interrupts and engineer interrupts can be carried out from an external controller via this connector.

❹ **INTERCOM/TALLY/PGM (intercom/tally/program audio) connector (19-pin)**
This connector is for two-channel intercom/tally/program audio input/output connections. Connect it to the corresponding connector of a control console or VTR.

❺ **MSU (master setup unit) connectors (16-pin)**
An optional MSU-350 master setup unit and another CCU may be connected to these loopthrough connectors using CCA-2 connecting cables. When an MSU-350 is connected to either of these connectors, all control signal exchanges between this CCU and the MSU-350 are carried out via the connector. Additional CCUs may be bridge-connected using the other one of these connectors for operation under the same MSU-350.

❻ **RCP (remote control panel) connector (16-pin)**
An RCP-3700 series remote control panel can be connected to this connector using a CCA-2 connecting cable. The CCU powers the RCP and exchanges control signals with it via this connector.

❼ **AC IN connector**
Connect this connector to an AC outlet using the supplied power cord.

❽ **REFERENCE INPUT connectors (BNC type)**
When using a reference signal (BB or VBS signal) for external synchronization, connect it to either of these loopthrough connectors.

❾ **RET 1, RET 2 (return video 1, 2) INPUT connectors (BNC type)**
The return video signals from two different systems can be input to these two pairs of loopthrough connectors. Selection between RET 1 and RET 2 is controlled at the BVP-370P/270P.

❿ **PROMPTER INPUT connectors (BNC type)**
These are loopthrough connectors used to input the signal for a teleprompter. When using a teleprompter unit, the BKP-3700 teleprompter unit is required.

⓫ **Spare connectors (BNC type)**
Spare connectors with no connection made.

⓬ **VBS1, VBS2, VBS3, VBS/VB OUTPUT connectors (BNC type)**
The signal picked up by the camera head is output as composite video signals (VBS) from these connectors. The output signal from the VBS/VB OUTPUT connector can be switched to a VB signal using a switch on the internal VA board. (For details, refer to Section 2 and after.)

⓭ **PIX (picture) OUTPUT connector (BNC type)**
The video signal selected using the PICTURE MONITOR buttons of the MSU-350 master setup unit is output from this connector for connection to a picture monitor.

⓮ **WF (waveform) OUTPUT connector (BNC type)**
The video signal selected using the WAVEFORM MONITOR buttons of the MSU-350 master setup unit is output from this connector for connection to a waveform monitor.

⓯ **MONITOR OUTPUT connector (BNC type)**
When an MSU-350 master setup unit and an RCP-3700 series remote control panel both connected to this CCU are used together, this connector can be used, under control from the RCP, as a video output connector for a waveform monitor. (For details, refer to Section 2 and after.)

⓰ **WF (waveform monitor) MODE connector (BNC type)**
This connector is used to monitor the R, G, and B signals in sequential mode using a Tektronix waveform monitor. Staircase signal can be obtained from this connector by pressing the SEQ button of the MSU-350.

⓱ **SYNC OUTPUT connector (BNC type)**
This connector outputs the sync signal (0.3 Vp-p, 75 ohms) generated by the built-in sync signal generator. Input the signal to the sync signal input connector of a waveform or picture monitor.

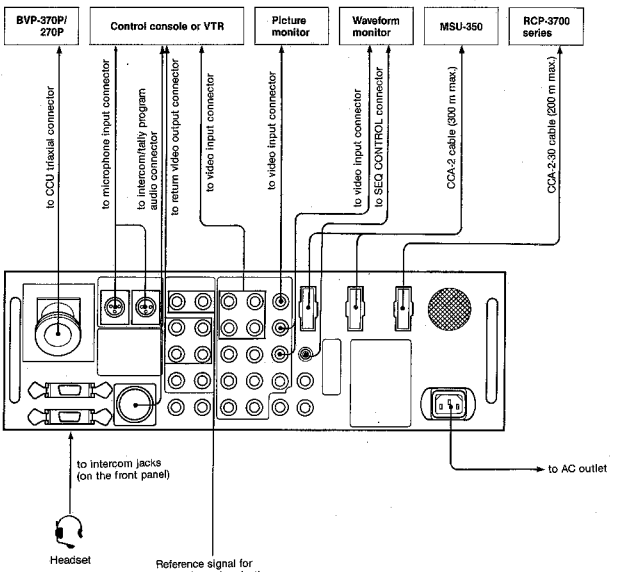
⓲ **R, G, B OUTPUT connectors (BNC type)**
These connectors output the R, G, and B signals for chroma keyer, respectively.

⓳ **Y, R–Y, B–Y OUTPUT connectors (BNC type)**
These connectors output the Y, R–Y, and B–Y signals, respectively, for connection to a digital VTR or a video switcher capable of handling component video signals.

Note

The input connectors on this rear panel have a loopthrough configuration, making bridge connections possible. Be sure to terminate them in 75 ohms when not used for bridge connection.

1-3. Connections



1-4. Specifications

General

Power requirements: 220/240 V ac ±10%, 50/60 Hz
Power consumption: Approx. 400 VA for full system operation
Camera cable length:

Cable type	Without return video	With return video
Fujikura φ14.5 mm	3000 m	2400 m
Belden 9232	2250 m	1800 m
Fujikura φ8.5 mm	1500 m	1200 m

Operating temperature: 0°C to +45°C (32°F to +113°F)
Dimensions: Approx. 424 × 133 × 350 mm (w/h/d)
(16¾ × 5¼ × 13⅞ inches)
Weight: Approx. 17 kg (37 lb 8 oz)

Connectors

VBS1, VBS2, VBS3, VBS/VB OUTPUT: BNC type, 1 each
VBS: 1.0 Vp-p, 75 ohms
(VBS/VB: selectable)
R, G, B OUTPUT: BNC type, 1 each
0.7 Vp-p, 75 ohms
Y, R–Y, B–Y OUTPUT: BNC type, 1 each
Y: 1 Vp-p (video: 0.7, sync: 0.3), 75 ohms
R–Y/B–Y: 0.525 Vp-p, 75 ohms
PIX OUTPUT: BNC type, 1
1.0 Vp-p, 75 ohms
WF OUTPUT: BNC type, 1
0.7 Vp-p, 75 ohms
ENC: 1.0 Vp-p
MONITOR OUTPUT: BNC type, 1
0.7 Vp-p, 75 ohms
ENC: 1.0 Vp-p
SYNC OUTPUT: BNC type, 1
0.3 Vp-p, negative, 75 ohms
WF MODE: 4-pin, 1
MIC OUTPUT 1, 2: XLR 3-pin, male, 1 each
0 dB/–20 dB selectable by the switch on the AT board
REFERENCE INPUT: BNC type, 1 (plus 1 for loopthrough output)
VBS/BB: 1.0 Vp-p, 75 ohms
(0.3 Vp-p, sync)
RET 1, RET 2 INPUT: BNC type, 1 each (plus 1 for loopthrough output)
1.0 Vp-p, 75 ohms
PROMPTER INPUT: BNC type, 1 (plus 1 for loopthrough output)
1.0 Vp-p, 75 ohms
MSU: 16-pin, 1 (plus 1 for loopthrough output)
RCP: 16-pin, 1
INTERCOM/TALLY/PGM: 19-pin, 1
TALLY 24 V DC/TTL level/contact selectable
MIC REMOTE, INTERCOM REMOTE: D-sub 9-pin, 1 each
Intercom jack (front panel): Double jack

Accessories supplied

AC power cord (1)
Power cord plug holder (1)
Extension board (1)
4-pin connector (1)
19-pin connector (1)
Number plate set (1)
Operation and maintenance manual (1)

Accessories not supplied

Triax cable
Teleprompter unit BKP-3700
Contrast control unit BKP-3701

For the optional intercom system (RTS/CLEARCOM/2 W), please consult your authorized Sony representative.

Recommended equipment

Camera head BVP-370P/270P
Remote control panel RCP-3700 series
Master setup unit MSU-350
Video selector VCS-350

Design and specifications are subject to change without notice.

Abschnitt 1. BETRIEB

1-1. Allgemeines

Die Kamera-Steuereinheit CCU-370P dient zur Aufbereitung der Signale, die von der neuentwickelten Studio/OB-Farbvideokamera BVP-370P/270P mit 3 CCD-Chips Stammen werden. Bei diesem Kamerasystem erfolgen Signalverarbeitung und Signalsteuerung über separate Komponenten. Daher ist neben dieser Kamera-Steuereinheit zur Signalverarbeitung auch die Hauptsteuereinheit MSU-350 oder ein Fernbedienpult der Baureihe RCP-3700 zur Signalsteuerung erforderlich. MSU und RCP können auch zusammen im „Parallel-Steuerbetrieb" bzw. „Split-Steuerbetrieb" verwendet werden.
Die CCU-370P hat folgende Gerätemerkmale:

Vielfältige Video-Eingänge und -Ausgänge
Die CCU-370P bietet vier separate FBAS-Ausgänge, wovon einer auf FBA-Signalausgabe umgeschaltet werden kann. Außerdem können hier auch die Breitbandfarbsignale R, G und B für eine Chroma-Keyer-Einheit sowie das Leuchtdichtesignal Y und die Farbdifferenzsignale R – Y und B – Y abgegriffen werden. Auch Signale für Wellenform- und Bildmonitor sind hier verfügbar. Den verschiedenen Eingängen können zwei Video-Rückführungssignale und ein Teleprompter-Videosignal zugeführt werden. Auch das Mischen von Rückführungs- und Kamerasignalen ist möglich.

Externe Synchronisierung
Das System läßt sich mit einem externen Bezugssignal (FBAS- oder FBA-Signal) synchronisieren.

Eingebauter Farbbalkengenerator
Der eingebaute Farbbalkengenerator kann 75%ige oder 95%ige Farbbalken erzeugen (EBU-Norm), wobei die Einstellung mit einem internen Schalter erfolgt.

Sichere Stromversorgung
Bei Anschluß einer Kamera über ein Triaxialkabel erzeugt das Gerät zunächst eine Gleichspannung von 30 V zur Überprüfung auf einwandfreien Kameraanschluß. Erst danach wird die Betriebswechselspannung von 240 V angelegt.
Bei einem Kurzschluß oder einer Unterbrechung im Kamera-Anschlußkabel leuchten entsprechende Warnanzeigen am Gerät auf.

Verschiedene Audio-Anschlußmöglichkeiten
Das Gerät ist mit zwei Mikrofon-Ausgängen und einem Audio-Signaleingang ausgestattet. Es kann zum gleichzeitigen Betrieb mit zwei getrennten 4 W-Gegensprechanlagen verbunden werden. Mit weiteren Komponenten (Sonderzubehör) ist die Verwendung der Sprechanlagen CLEARCOM, 4 W und 2 W möglich.

Verlängerung des Kamerakabels bis auf 3000 m
Das Gerät und der Kamerakopf werden durch Triaxialkabel miteinander zu verbunden. Die zulässige Höchstlänge bei der Signalübertragung über Triaxialleitungen richtet sich nach dem jeweils verwendeten Kabel gemäß folgender Tabelle:

Triaxialkabel	Zulässige Höchstlänge
Fujikura ϕ14,5 mm	3000 m (2400 m*)
Belden 9232	2250 m (1800 m*)
Fujikura ϕ8,5 mm	1500 m (1200 m*)

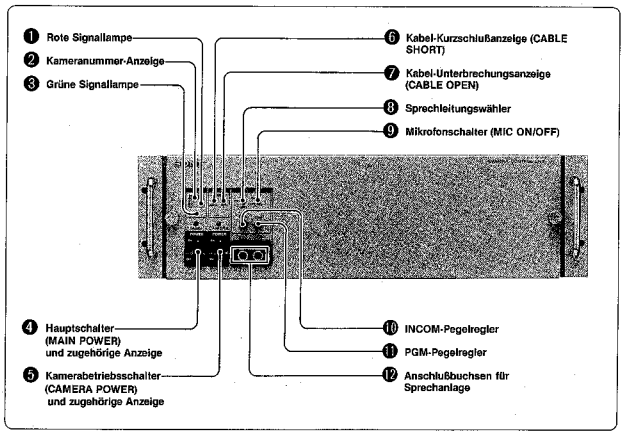
* Zur Rückführungssignalübertragung

Gestelleinbau
Die CCU-370P kann in ein 19-Zoll-Normgestell eingebaut werden (drei Geräte übereinander gemäß EIA-Norm).

Modularer Systemaufbau
Die Stromversorgungseinheit ist als Einschub ausgelegt und die Hauptplatine als Steckkarte, so daß sie zur leichteren Wartung problemlos ein- und ausgebaut werden können.

1-2. Lage und Funktion der Teile und Bedienelemente

1-2-1. Frontplatte



1 Rote Signallampe
Diese Anzeige leuchtet Rot auf, wenn dem Gerät ein „Rot-Signal" zugeführt wird. Das Gleiche gilt bei Betätigung der CALL-Taste an Kamerakopf, Hauptsteuereinheit oder Fernbedienpult.

2 Kameranummer-Anzeige
Entsprechend der angeschlossenen Kamera kann hier das mitgelieferte Nummernetikett angebracht werden.

3 Grüne Signallampe
Diese Anzeige leuchtet Grün auf, wenn dem Gerät ein „Grün-Signal" zugeführt wird.

4 Hauptschalter (MAIN POWER) und zugehörige Anzeige
Mit diesem Schalter wird die Stromversorgung zur CCU-370P und weiteren Komponenten des Kamerasystems ein- und ausgeschaltet. Hierzu zählen z.B. der Kamerakopf und das Fernbedienpult.

5 Kamerabetriebsschalter (CAMERA POWER) und zugehörige Anzeige
Bei betätigtem Hauptschalter kann mit CAMERA POWER die Stromversorgung des Kamerakopfes ein- und ausgeschaltet werden. Bei angeschlossenem Fernbedienpult ist die Stromversorgung des Kamerakopfes über diesen Schalter nur dann möglich, wenn Taste CAM PW am Bedienpult betätigt ist (bzw. die zugehörige Anzeige leuchtet).

⑥ **Kabel-Kurzschlußanzeige (CABLE SHORT)**
Weist durch Aufleuchten darauf hin, daß ein Überstrom im Kamerakabel fließt oder im Gerät ein Kurzschluß vorhanden ist.

⑦ **Kabel-Unterbrechungsanzeige (CABLE OPEN)**
Weist durch Aufleuchten darauf hin, daß der CAMERA-Anschluß an der Geräterückseite nicht beschaltet bzw. keine Kamera angeschlossen ist.

⑧ **Sprechleitungswähler**
PROD: Zur Kommunikation über die Produktionsleitung
PRIV: Zur Kommunikation mit einer Person am Kamerakopf.
ENG: Zur Kommunikation über die Technikerleitung.

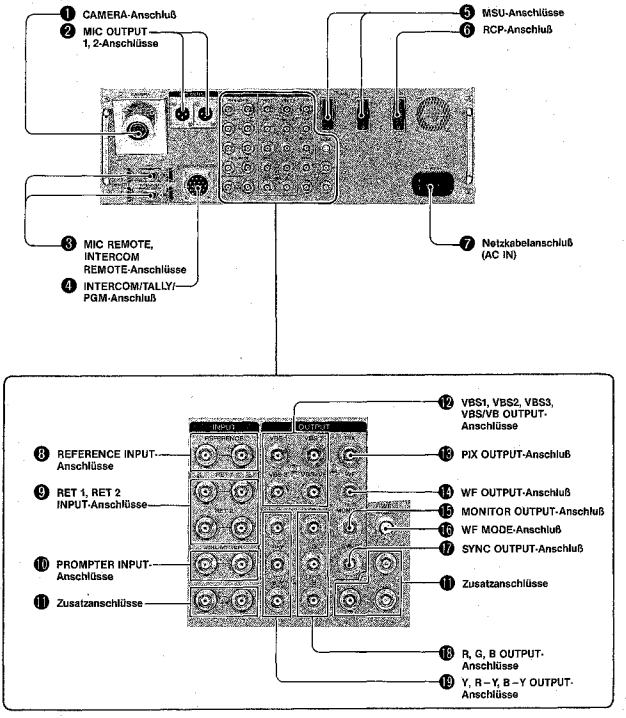
⑨ **Mikrofonschalter (MIC ON/OFF)**
Ein-/Ausschalten des Mikrofons der Hör-Sprechgarnitur, die an die Sprechanlagenbuchsen angeschlossen ist.

⑩ **INCOM-Pegelregler**
Zum Einstellen der Sprechanlagenlautstärke in der Hör-Sprechgarnitur.

⑪ **PGM-Pegelregler**
Zur Lautstärkeeinstellung der Audio-Signalquelle in der Hör-Sprechgarnitur.

⑫ **Anschlußbuchsen für Sprechanlage (Doppelbuchsen)**
Zum Anschluß einer Hör-Sprechgarnitur. Die rechte Buchse ist für die Audio-Signalquelle und die linke für die Sprechanlage bestimmt.

1-2-2. Rückseite



❶ CAMERA-Anschluß (Fischer)
Dieser Eingang dient zum Anschluß einer Farbvideokamera BVP-370P/270P über ein Triaxialkabel. Das Triaxialkabel dient zur Stromversorgung des Kamerakopfs sowie zur Übertragung der Steuer-, Video- und Audiosignale zwischen CCU-370P und dem Kamerakopf. Der CAMERA-Steckverbinderblock ist in mehreren verschiedenen Typen erhältlich, die gegeneinander austauschbar sind. Auf diese Weise sind alle handelsüblichen Triaxialkabelsteckverbinder verwendbar.

❷ MIC OUTPUT 1, 2-Anschlüsse (XLR, 3pol)
Die von den beiden Kameramikrofonen aufgenommenen Signale werden über diese Anschlüsse ausgegeben.

❸ MIC REMOTE, INTERCOM REMOTE-Anschlüsse (D-Sub, 9pol)
Diese Anschlüsse dienen zum Anschluß eines fernbedienten Mikrofons und einer Sprechanlage.

MIC REMOTE: Die Mikrofonverstärkung der Kamera läßt sich über diesen Steckverbinder in 5 Stufen (0/–6/–12/–18/–24 dB) gemäß den jeweiligen akustischen Gegebenheiten während der Videoaufnahme einstellen. Hierzu dient ein externes Steuergerät, z.B. ein Audio-Mischer. Darüber hinaus kann die Verstärkung auch von der internen Schaltplatine des CCU-370P aus eingestellt werden.

INTERCOM REMOTE: Über diesen Anschluß sind mit Hilfe eines externen Steuergeräts Steuervorgänge über die Sprechanlage möglich (z.B. Stummschaltung oder Unterbrechungen durch Produktionsleiter bzw. Techniker).

❹ INTERCOM/TALLY/PGM-Anschluß (19pol)
Dieser Anschluß dient als Ein-/Ausgang für Sprechanlage, Signalzeichengabe oder Audio-Programmquelle (2 Kanäle). Der Anschluß ist mit dem entsprechenden Anschluß an einem Steuerpult oder Videorecorder zu verbinden.

❺ MSU-Anschlüsse (16pol)
Eine als Sonderzubehör erhältliche Hauptsteuereinheit MSU-350 und eine weitere Kamera-Steuereinheit lassen sich über diese durchgeschleiften Anschlüsse mit Hilfe von CCA-2-Verbindungskabeln zusammenschalten. Bei Anschluß eines MSU-350 an einen der Anschlüsse erfolgt der gesamte Steuersignalaustausch zwischen ihr und der CCU-370P über diesen Anschluß. Zusätzliche Kamera-Steuereinheiten können zur Steuerung über die gleiche Hauptsteuereinheit MSU-350 mit einem anderen MSU-Anschluß verbunden werden.

❻ RCP-Anschluß (16pol)
Mit einem CCA-2-Verbindungskabel läßt sich hier ein Fernbedienpult der Baureihe RCP-3700 anschließen. Die Stromversorgung des Fernbedienpults sowie ihr Steuersignalaustausch mit der CCU-370P erfolgt über diesen Anschluß.

❼ Netzkabelanschluß (AC IN)
Über diesen Anschluß und das mitgelieferte Netzkabel ist das Gerät mit einer Wandsteckdose zu verbinden.

⑧ REFERENCE INPUT-Anschlüsse (BNC)
Das Bezugssignal (FBA bzw. FBAS) zur externen Synchronisierung des Geräts ist einem dieser durchgeschleiften Anschlüsse zuzuführen.

⑨ RET 1, RET 2 INPUT-Anschlüsse (BNC)
Die Rückführungssignale von zwei verschiedenen Systemen können über diese beiden Paare von durchgeschleiften Anschlüssen dem Gerät zugeführt werden. Die Umschaltung zwischen RET 1 und RET 2 erfolgt über die Kamera BVP-370P/Z70P.

⑩ PROMPTER INPUT-Anschlüsse (BNC)
Über diese durchgeschleiften Anschlüsse wird dem Gerät ein Teleprompter-Signal zugeführt. Bei Verwendung einer Teleprompter-Einheit ist der Teleprompter-Adapter BKP-3700 erforderlich.

⑪ Zusatzanschlüsse (BNC)
Diese Zusatzanschlüsse dienen als Reserve und sind daher noch nicht beschaltet.

⑫ VBS1, VBS2, VBS3, VBS/VB OUTPUT-Anschlüsse (BNC)
Das vom Kamerakopf aufgenommene Signal kann hier an drei Anschlüssen als FBAS-Signal abgegriffen werden. Mit einem Schalter an der internen VA-Platine läßt sich das Ausgangssignal an Anschluß VBS/VB OUTPUT auf FBA-Format umschalten. (Einzelheiten hierzu entnehmen Sie bitte Teil 2 und folgenden Abschnitten.)

⑬ PIX OUTPUT-Anschluß (BNC)
Das Videosignal für den Bildmonitor kann hier abgegriffen werden. Die Signalwahl erfolgt mit den Tasten PICTURE MONITOR an der Hauptsteuereinheit MSU-350.

⑭ WF OUTPUT-Anschluß (BNC)
Das Videosignal für den Wellenformmonitor kann hier abgegriffen werden. Die Signalwahl erfolgt mit den Tasten WAVEFORM MONITOR an der Hauptsteuereinheit MSU-350.

⑮ MONITOR OUTPUT-Anschluß (BNC)
Dient unter RCP-Steuerung zum Abgriff eines Videosignals für einen Wellenformmonitor, wenn eine Hauptsteuereinheit MSU-350 und ein RCP-3700-Fernbedienpult über dieses Gerät zusammengeschaltet sind und gemeinsam betrieben werden. (Einzelheiten hierzu entnehmen Sie bitte Teil 2 und folgenden Abschnitten.)

⑯ WF MODE-Anschluß (BNC)
Über diesen Anschluß werden die Farbsignale R, G und B sequentiell mit Hilfe eines Tektronix-Wellenformmonitors überwacht. Durch Betätigung der SEQ-Taste am MSU-350 läßt sich an diesem Anschluß ein Treppensignal abgreifen.

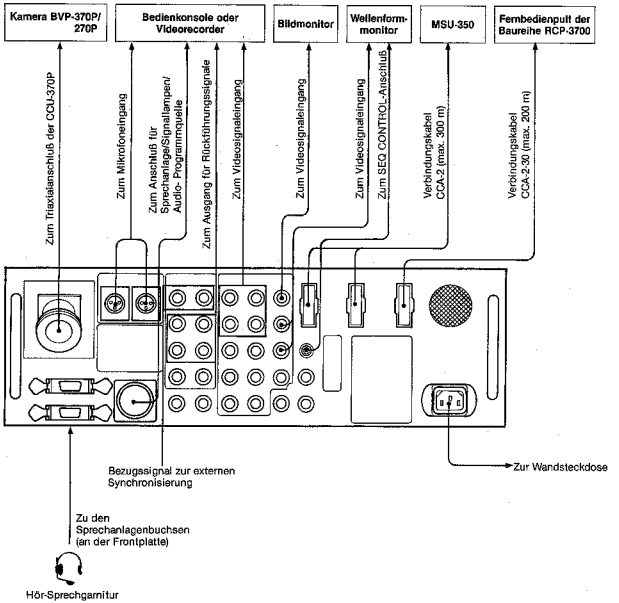
⑰ SYNC OUTPUT-Anschluß (BNC)
Das vom eingebauten Synchronsignalgenerator erzeugte Synchronsignal (0,3 Vss, 75 Ω) wird über diesen Anschluß ausgegeben und dem Synchronsignaleingang eines Wellenform- oder Bildmonitors zugeführt.

⑱ R, G, B OUTPUT-Anschlüsse (BNC)
Die Farbsignale R, G und B können hier abgegriffen und einer Chroma-Keyer-Einheit zugeführt werden.

⑲ Y, R–Y, B–Y OUTPUT-Anschlüsse (BNC)
An diesen Anschlüssen stehen das Leuchtdichtesignal Y bzw. die Farbdifferenzsignale R–Y und B–Y zum Abgriff für einen Digitalvideorecorder oder einen Videoumschalter mit verarbeitbaren Teilsignalen zur Verfügung.

Zur Beachtung
Die Eingangssteckverbinder an der Geräterückseite sind durchgeschleift und können daher überbrückt werden. Achten Sie bitte unbedingt auf einen Abschlußwiderstand von 75 Ω, wenn keine Brückenschaltung vorliegt.

1-3. Beschaltung



1-4. Technische Daten

Allgemeines

Anschlußwerte	110 – 120/220 – 240 V ± 10%, 50/60 Hz
Leistungsaufnahme	ca. 400 VA bei Maximalkonfiguration
Länge des Kamerakabels	

Kabeltyp	Ohne Video-Rückführung	Mit Video-Rückführung
Fujikura ϕ14,5 mm	3000 m	2400 m
Belden 9232	2250 m	1800 m
Fujikura ϕ8,5 mm	1500 m	1200 m

Betriebstemperatur	0 bis + 45 °C
Abmessungen (B × H × T)	ca. 424 × 133 × 350 mm
Gewicht	ca. 17 kg

Anschlüsse

VBS1, VBS2, VBS3, VBS/VB	BNC, FBAS-Anschluß jeweils 1,0 Vss, 75 Ω (VBS/VB: umschaltbar zwischen FBAS/FBA)
R, G, B OUTPUT	BNC, jeweils 0,7 Vss, 75 Ω
Y, R – Y, B – Y OUTPUT	BNC, Y-Anschluß: 1 Vss (Video: 0,7, Synchr: 0,3), 75 Ω R – Y/B – Y: 0,525 Vss, 75 Ω
PIX OUTPUT	BNC, 1,0 Vss, 75 Ω
WF OUTPUT	BNC, 0,7 Vss, 75 Ω ENC: 1,0 Vss
MONITOR OUTPUT	BNC, 0,7 Vss, 75 Ω ENC: 1,0 Vss
SYNC OUTPUT	BNC, 0,3 Vss, negativ, 75 Ω
WF MODE	4pol, 1
MIC OUTPUT 1, 2	XLR, 3pol, 2 Einbaustecker, jeweils 0 dB/ – 20 dB, wählbar mit Schalter an AT-Platine
REFERENCE INPUT	BNC, 1 (1 durchgeschleift) FBAS/FBA: 1,0 Vss, 75 Ω (0,3 Vss, Synchronsignal)
RET 1, RET 2 INPUT	BNC, 1 (1 durchgeschleift), jeweils 1,0 Vss, 75 Ω
PROMPTER INPUT	BNC, 1 (1 durchgeschleift), 1,0 Vss, 75 Ω
MSU	16pol, 1 (1 durchgeschleift)
RCP	16pol, 1
INTERCOM/TALLY/PGM	19pol, 1 TALLY: 24 V/TTL-Pegel/Kontakt wählbar
MIC REMOTE, INTERCOM REMOTE	D-Sub, 9pol, jeweils 1
Sprechanlagenbuchsen (Frontplatte)	Doppelbuchsen

Zubehör

Netzkabel (1)
Netzkabelhalterung (1)
Erweiterungskarte (1)
4pol Steckverbinder (1)
19pol Steckverbinder (1)
Kameranummer-Etikettensatz (1)
Bedienungs- und Wartungsanleitung (1)

Sonderzubehör

Triaxialkabel
Teleprompter-Adaptersatz BKP-3700
Kontrastregeleinheit BKP-3701

Über die Linienwähleranlage (RTS/CLEARCOM/2 W) nach Wunsch erteilt Ihre Sony-Vertretung Ihnen gerne eine nähere Auskunft.

Empfohlene Anschlußkomponenten

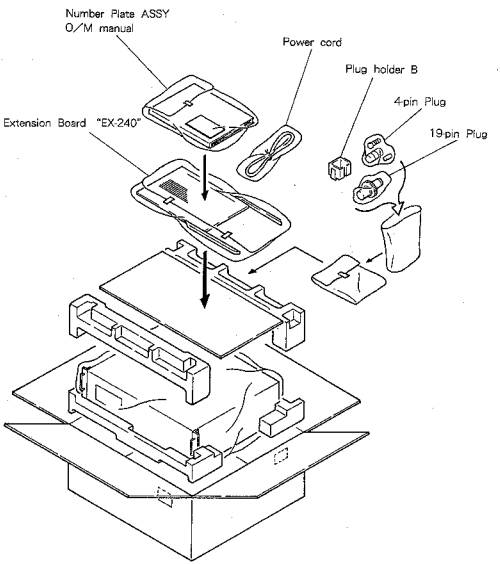
Kamerakopf BVP-370P/270P
Fernbedienpult der Baureihe RCP-3700
Hauptsteuereinheit MSU-350
Video Selector VCS-350

Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

(1)

SECTION 2
INSTALLATION

2-1. PACKING AND UNPACKING

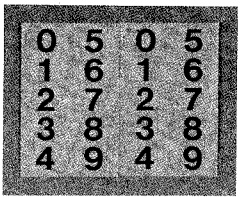


2-2. SUPPLIED ACCESSORIES

Extension Board "EX-240": 1

Power Cord: 1

Number Plate Assy: 1



4 Pin Plug (MALE): 1

19 Pin Plug (FEMALE): 1

Plug Holder B: 1

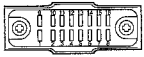
2-3. CONNECTORS AND CABLES

2-3-1. Connector Input and Output Signals

Main connector input and output signals are shown below.

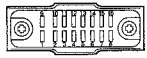
- REFERENCE IN: BNC-type 75 Ω
  1.0 Vp-p
  loop through
- RET 1 IN: BNC-type 75 Ω
  1.0 Vp-p
  loop through
- RET 2 IN: BNC-type 75 Ω
  1.0 Vp-p
  loop through
- PROMPTER IN: BNC-type 75 Ω
  1.0 Vp-p
  loop through
- VBS 1 OUT: BNC-type 75 Ω
  1.0 Vp-p
- VBS 2 OUT: BNC-type 75 Ω
  1.0 Vp-p
- VBS 3 OUT: BNC-type 75 Ω
  1.0 Vp-p
- VBS/VB OUT: BNC-type 75 Ω
  1.0 Vp-p/714 mVp-p
- Y OUT: BNC-type 75 Ω
  700 mVp-p/1.0 Vp-p
- R-Y OUT: BNC-type 75 Ω
  700 mVp-p
- B-Y OUT: BNC-type 75 Ω
  700 mVp-p
- R OUT: BNC-type 75 Ω
  700 mVp-p/1.0 Vp-p
- G OUT: BNC-type 75 Ω
  700 mVp-p/1.0 Vp-p
- B OUT: BNC-type 75 Ω
  700 mVp-p/1.0 Vp-p
- PIX OUT: BNC-type 75 Ω
  1.0 Vp-p
- WF OUT: BNC-type 75 Ω
  714 mVp-p
- MONITOR OUT: BNC-type 75 Ω
  1.0 Vp-p
- SYNC OUT: BNC-type 75 Ω
  0.3 Vp-p

MSU(16P, FEMALE)



No.	SIGNAL	SPECIFICATIONS
1	CABLE SHIELD	chassis GND
2	NC	Non connection
3	NC	Non connection
4	NC	Non connection
5	NC	Non connection
6	MSU-CCU IN/OUT(X)	MSU ⇄CCU SERIAL DATA
7	MSU-CCU IN/OUT(Y)	
8	MSU-CCU IN/OUT(G)	Non connection
9	NC	Non connection
10	NC	Non connection
11	NC	Non connection
12	NC	Non connection
13	NC	SEQ CONTROL
14	SEQ SYNC IN(X)	INPUT
15	SEQ SYNC IN(Y)	
16	SEQ SYNC IN(G)	

RCP(16P, FEMALE)



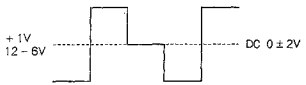
No.	SIGNAL	SPECIFICATIONS
1	CABLE SHIELD	chassis GND
2	GND	GND for Power
3	DATA OUT(X)	
4	DATA OUT(Y)	
5	DATA OUT(G)	
6	CCU-RCP DATA OUT(X)	CCU SERIAL DATA OUTPUT
7	CCU-RCP DATA OUT(Y)	
8	CCU-RCP DATA OUT(G)	
9	+30V OUT	RCP POWER
10	GND	GND for POWER
11	DATA IN(X)	
12	DATA IN(Y)	
13	DATA IN(G)	
14	RCP-CCU DATA IN(X)	RCP SERIAL DATA INPUT
15	RCP-CCU DATA IN(Y)	
16	RCP-CCU DATA IN(G)	

WF MODE (4P, FEMALE)

(EXT VIEW)

No.	SIGNAL	SPECIFICATIONS
1	SEQ CONT OUT(G)	OPEN COLLECTOR
2	SEQ CONT OUT(X)	
3	STAIR CASE OUT(G)	GND for STAIR CASE
4	STAIR CASE OUT(X)	Note 1)

Note 1) Stair Case signal

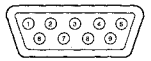


MIC OUT (3P, FEMALE)

(EXT VIEW)

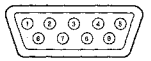
No.	SIGNAL	SPECIFICATIONS
1	MIC OUT(G)	0dBs/ – 20dBs
2	MIC OUT(Y)	
3	MIC OUT(X)	

MIC REMOTE (9P, FEMALE)



No.	SIGNAL	SPECIFICATIONS
1	NC	Non connection
2	MIC 2 GAIN CONT IN	0~5Vdc
3	NC	Non connection
4	GND	GND for +5V
5	+5V OUT	REMOTE POWER +5Vdc
6	NC	Non connection
7	MIC 1 GAIN CONT IN	0~5Vdc
8	NC	Non connection
9	NC	Non connection

INCOM REMOTE (9P, FEMALE)



No.	SIGNAL	SPECIFICATIONS
1	NC	Non connection
2	INCOM OFF IN	ON:0V OFF:+5V
3	PROD INT IN	ON:0V OFF:+5V
4	GND	GND for +5V
5	+5V OUT	REMOTE POWER +5Vdc
6	NC	Non connection
7	NC	Non connection
8	ENG INT IN	ON:0V OFF:+5V
9	NC	Non connection

INTERCOM/TALLY/PGM (16P, MALE)

No.	SIGNAL	SPECIFICATIONS
1	PGN IN(X)	– 20dBs/0dBs (Selectable)
2	PGN IN(Y)	
3	PGN IN(G)	
4	R TALLY IN(X)	ON: 24Vdc, TTL(H), SHORT OFF: 0Vdc, TTL(L), OPEN
5	R TALLY IN(Y)	
6	G TALLY IN(X)	ON: 24Vdc, TTL(H), SHORT OFF: 0Vdc, TTL(L), OPEN
7	G TALLY IN(Y)	
8	END(R)OUT(X)	END SYSTEM RECEIVE 0dBs BALANCED
9	END(R)OUT(Y)	
10	GND	CHASSIS GND
11	PROD(R)OUT(X)	PROD SYSTEM RECEIVE 0dBs BALANCED
12	PROD(R)OUT(Y)	
13	END(T)IN(X)	END SYSTEM TALK 0dBs BALANCED
14	END(T)IN(Y)	
15	PROD(T)IN(X)	PROD SYSTEM TALK 0dBs BALANCED
16	PROD(T)IN(Y)	
17	GND	GND for END
18	NC	Non connection
19	GND	GND for PROD

2-3-2. Connector

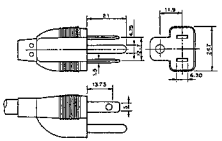
When cable with connectors are set to the respective connectors on the connector panel during installation or service, the specified or equivalent connectors with cables, or the specified cable assemblies should be used, these are listed as follows;

Connector function	Parts No. and name of connector with cable
REFERENCE INPUT RET 1 INPUT RET 2 INPUT PROMPTER INPUT VBS 1 INPUT VBS 2 INPUT VBS 3 INPUT VBS/VB OUTPUT Y OUTPUT R-Y OUTPUT B-Y OUTPUT R OUTPUT G OUTPUT B OUTPUT PIX OUTPUT WF OUTPUT MONITOR OUTPUT SYNC OUTPUT (BNC)	1-560-069-11 PLUG BNC or B-B Cable assembly (Cable length 1.5m optional)
MSU RCP (16P, FEMALE)	1-564-970-11 PLUG, 16P, MALE(P-1616G-C or equivalent)
WF MODE (4P, FEMALE)	1-560-343-00 PLUG, 4P, MALE(Supplied)
MIC MODE (XLP-3P, FEMALE)	1-516-125-00 XLR-3-12C, 3P, MALE
MIC REMOTE INCOM REMOTE (9P, FEMALE)	1-556-354-11 D-SUB, 9P, MALE
INTERCOM/TALLY/PGM (19P, MALE)	1-506-767-11 MULTI 19P FEMALE(Supplied)

2-4. POWER SUPPLY

Power sources: AC 100V–240V ± 10%
Power frequency: 50/60Hz
Power consumption: 135W (MAX)

Cord, power 3P-Plug
Cable length about 2.7m
Rated Voltage 120V
Rated Current 7A



No Plug
Cable length about 3.0m
Rated Voltage 250V
Rated Current 6A

2-5. PERIPHERAL DEVICES AND ACCESSORIES

- Camera Cable (TRIAX CABLE)
  CCT-100 (100m)
  CCT-150 (150m)
  This is camera cable for connecting the camera or camera adaptor and CCU-370/370P

- Camera Adaptor
  CA-57/57P
  This is camera adaptor for attaching to Betacam camera.

- Remote Control Panel
  RCP-3710/3711
  RCP-3720/3721
  RCP-3730/3731

- Master Setup Unit
  MSU-350
  MSU-370

- Video Selector
  VCS-350
  VCS-370

- Teleprompter Unit
  BKP-3700

- Contrast Control Unit
  BKP-3701

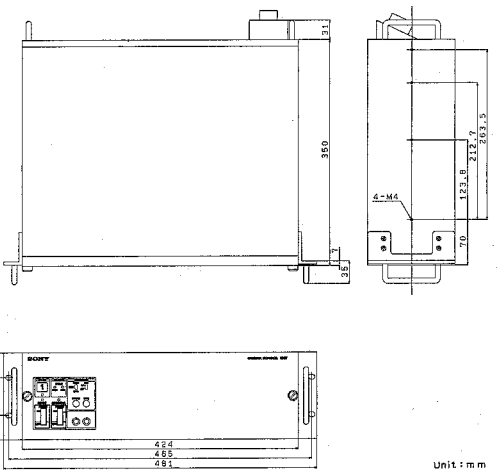
2-6. INSTALLATION

2-6-1. Installation Conditions

Operating temperature: –10°C to +45°C
Storage temperature: –20°C to +50°C
Humidity: Non condense

1. Do not install near a heat source as a power supply.
2. Do not install in a intense electric or magnetic fields.
3. Install the unit in a location which is dry and well ventilated as possible.
4. Avoid using the camera in locations where it will be subjected to violent vibration.

2-6-2. Outside Dimension



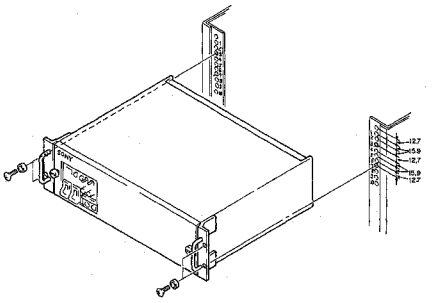
Unit : mm

2-6-3. How to attach to 19-inch rack

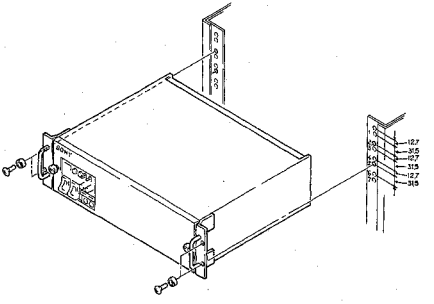
1. To use rack angle

Install the rack angle of CCU-370/370P to front rails of 19-inch rack.(This procedure requires two people.)

- Universal-type Rack



- Wide-ttype Rock



2. To use Slide rail

The MSU-360/OCU-3610 are able to attach the slide rail for rack mounting.
It is very availability to take out and insert the machine in the 19-inch rack.
When using the slide rail, prepare the parts as shown below;

Slide Rail 1pair
(The 1-pair is consisted of the two inner-members and outer-members.)
Accuride ®'s No. 305-18 (454mm)
(Sony part No. 3-651-827-01)
No. 305-22 (556mm)
(Sony part No. 2-295-915-01)

Bracket × 4
Accuride ®'s No. #5517-2
(Sony part No. 3-651-826-01)

Inner member fixing screws × 4
+B4 × 8 (Sony part No. 7-682-561-04)

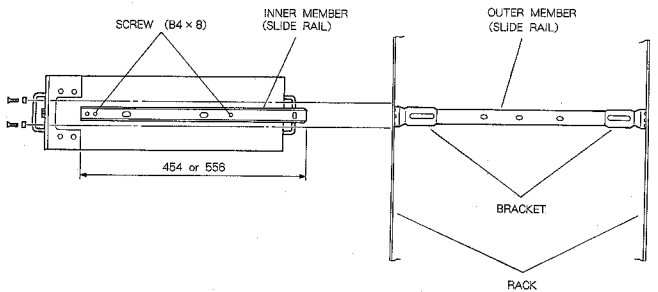
Attach the slide rails to the machine and mount it in the cabinet rack.

Be able to obtain the parts from the following.
Manufacture: Accuride, Inc.

UNITED STATES
- Accuride
  12311 S. Shoemaker Avenue
  Santa Fe Springs, CA 90670
  TEL 213-944-0921
  FAX 213-944-4079
- Accuride
  Quality Drive
  Charlotte, NC 28217
  TEL 704-588-5880
  FAX 704-588-6316

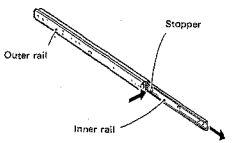
WEST GERMANY
- Standard-Praezision GmbH
  Postfach 1265
  Werner-von-Siemens-Strasse 16-18
  6252 Diez/Lahn West Germany
  TEL 6432-4031~4033
  FAX 6432-4034

UNITED KINGDOM
- Accuride Limited
  Lilliput Road
  Brackmills Industrial Estate
  Northampton, NN4 OAR
  United Kingdom
  TEL 604-61111
  FAX 604-67190



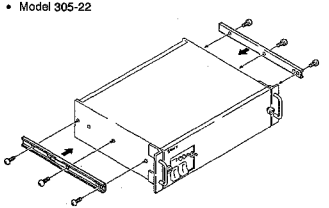
Unit : mm

1. Push in the inner rail stopper and pull out the outer rail.

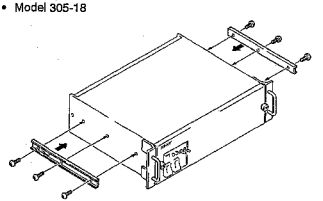


2. Install the inner rails removed in step 1 to CCU-370/370P using the four screws (B × 8).

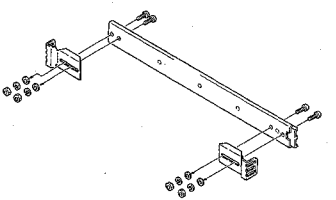
- Model 305-22



- Model 305-18



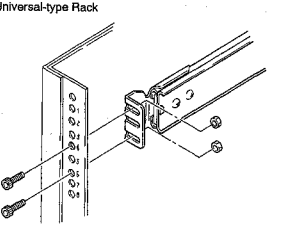
3. Using the four screws (B4 × 12), loosely attach the rail brackets to both outer rails.



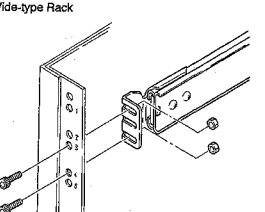
4. Adjust the length of the rail bracket in step 3 so as to fit the depth of the rack and tighten the screws.

5. Install the rail bracket in step 4 using the two hexagon socket head bolts.

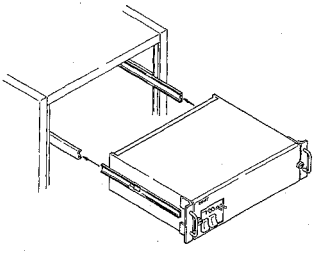
- Universal-type Rack



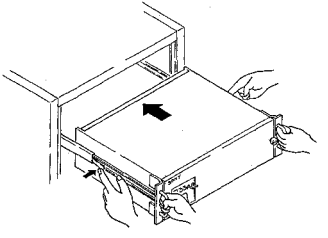
- Wide-type Rack



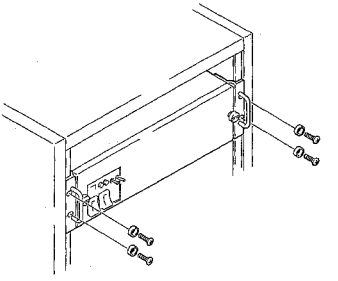
6. Pull these rails out.



7. Push in both inner rail stopper to release the lock, and slide the CCU-370/370P into the rack.
(This procedure requires two people.)



8. Secure the CCU-370/370P into the rack with the four screws and the washer.



2-7. SETUP

1. Connect the camera to the CCU with a triax cable or multicore cable.

2. Connect to an AC outlet using the supplied power cord.

3. Set the switches on the PC board shown below according to your requirement.
   Section 2-8 switches function on board.
   They are set to the position shown in ( ) at the factory.

AT-55A (CCU-370)/AT-55B (CCU-370P) board

- S1 (MIC 1) [F-9] "(0 dB) ↔ –20 dB"
- S2 (MIC 2) [E-9] "(0 dB) ↔ –20 dB"
- S3 (POWER/CONTACT) [H-5] "(POWER) ↔ CONTACT"
- S4 (POWER/TTL) [H-5] "(POWER) ↔ TTL"
- S5 (POWER/CONTACT) [H-6] "(POWER) ↔ CONTACT"
- S6 (POWER/TTL) [H-6] "(POWER) ↔ TTL"
- S7 (PGM) [I-6] "(0 dB) ↔ –20 dB"
- S50 (INCOM 1CH/2CH) [K-5] "1CH ↔ (2CH)"
- S51 (MIC 2 GAIN) [PANEL] "NORMAL—36 dB"(NORMAL)
- S52 (MIC 1 GAIN) [PANEL] "NORMAL—36 dB"(NORMAL)
- S53 (GRP NO) [PANEL] "0–4"(0)
- S54 (CCU NO) [PANEL] "1–4"(1)
- S55 (MIC CONT) [PANEL] "(REMOTE) ↔ LOCAL"
- S56 (TERMINATION) [K-3] "ON ↔ (OFF)"

AU-130 board

- S1 (INCOM MIC)[D-1] "DYNAMIC ↔ (CARBON)"

DM-79 board

- S1 (AUTO/MANU)[PANEL] "(AUTO) ↔ MANU"
- S2 (CABLE LENGTH)[A-9] "2–7"

VA-87A (CCU-370)/VA-87P (CCU-370P) board

- S1 (CB SELECT)[G-3]
  BVP-370 : "(SMPTE) ↔ EIAJ ↔ FULL"
  BVP-370P : "(EBU)" ↔ 90%
- S4 (VB/VBS SYNC)[C-9] "(ON) ↔ OFF"

4. Attach to this indicator the number plate (supplied) corresponding to the number of the connected camera.

5. Connect the peripheral devices according to use.

6. Turn on the main power switch of CCU.

Make sure that the power indicator on the front panel of the CCU lights up and the camera system operates.

7. Perform the following adjustment.
   - 2W CANCEL Adjustment
   - SIDE TONE Adjustment
   - STAIR CASE Adjustment

As for the other adjustments, refer to Section 5 "ALIGNMENT"in this manual.

2-8. FUNCTION OF SWITCHES ON PC BOARD

AT-55A (CCU-370)/AT-55B (CCU-370P) board

- S1: 0 dB/–20 dB
  This switch is used to set the level at MIC OUT 1 connector on the rear panel to 0 dBs or –20 dBs.
  This switch is factory-set to 0 dBs.

- S2: 0 dB/–20 dB
  This switch is used to set the level at MIC OUT 2 connector on the rear panel to 0 dBs or –20 dBs.
  This switch is factory-set to 0 dB.

- S3: POWER/CONTACT
- S4: POWER/TTL
  Set the switches S3 and S4 in accordance with the R TALLY signal, which is fed to the INTERCOM/ TALLY/PGM connector on the rear panel, as shown in the table.
  These switches are factory-set to POWER.

- S5: POWER/CONTACT
- S6: POWER/TTL
  Set the switches S5 and S6 in accordance with the G TALLY signal which is fed to the INTERCOM/ TALLY/PGM connector on the rear panel as shown in the table.
  These switches are factory-set to POWER.

SIGNAL / SWITCH	CONTACT	POWER (+24V)	TTL
S3, S5(POWER/ CONTACT)	CONTACT	POWER	POWER
S4, S6 (POWER/TTL)	DO NOT CARE	POWER	TTL

- S7: 0 dB/ – 20 dB
  This switch is used to set the level at PGM connector on the rear panel to 0 dBs or – 20 dBs.
  This switch is factory-set to 0 dBs.

- S50: INCOM 1CH/2CH
  This switch is used to set to 1CH or 2CH (ENG;engineer/PROD;producer) depending on what intercom system is used.
  When the switch is set to 1CH, the PROD line is automatically selected regardless of the ENG/PROD SELECT switch of the camera head or CCU.

- S51: MIC 2 GAIN
  This switch is valid with the switch S55 (MIC CONT REMOTE/LOCAL) set to REMOTE. When the CCU-370/P selects the MIC IN CH2 input level of camera head, the switch S51 is used. Select –60 dBs, –54 dBs, –48 dBs, –42 dBs or –36 dBs position depending on audio input level.
  This switch is factory-set to NORMAL.

- S52: MIC 1 GAIN
  This switch is valid with the switch S55 (MIC CONT REMOTE/LOCAL) set to REMOTE. When the CCU-370/P selects the MIC IN CH1 input level of camera head, the switch S52 is used. Select –60 dBs, –54 dBs, –48 dBs, –42 dBs or –36 dBs position depending on audio input level.
  This switch is factory-set to NORMAL.

- S53: GRP NO.
  The switch setting is required when the master setup unit MSU-350/370 controls the CCU-370/P.
  Set the group number to 0 for a basic system consisting of a pair of MSU and VCS.
  When using additional units of VCS-350, set the switch as follows.
  When using the VCS-350 that has been set to the main mode, only one VCS-350 can be used as the second unit. In this case, put it into the sub mode and set the group number of CCUs connected to the second unit to 1.
  When using the VCS-370, up to four VCS-350s can be used as the second unit or later. Select the same group number (1 to 4; selectable) for all CCUs connected to an additional VCS-350.
  Factory-setting is 0.

- S54: CCU NO.
  Set the switch corresponding to connector number of the PIX connector and the WFM connector on the VCS-350.
  This switch is factory-set to 1.

- S55: MIC CONT REMOTE/LOCAL
  Setting the switch to REMOTE enables an external controller to control the MIC input level of the camera head via the MIC REMOTE connector on the rear panel.
  By setting the switch to LOCAL, the CCU-370/P can control the input level using the switches S51 and S52.
  This switch is factory-set to REMOTE.

- S56: TERMINATION ON/OFF
  The MSU, VCS on CCU can be bridge-connected because the MSU connector of CCU is a loop through connector. Set the switch S56 to ON when the MSU, VOS on CCU are not bridge-connected. This switch is factory-set to OFF.

AU-130 board

- S1: INCOM MIC
  This switch is used to set the input impedance for the microphone to either CARBON or DYNAMIC.
  This switch is factory-set to CARBON.

DM-79 board

- S1: AUTO/MANU
  When the switch is set to AUTO, a triaxial cable length between the camera head and the CCU is automatically detected.
  When it is set to MANU, the cable length can be selected manually by setting the switch S2.
  This switch is factory-set to AUTO.

- S2: CABLE LENGTH SELECT
  This switch is valid with the switch S1(AUTO/MANU) set to MANU. Select the cable length by setting the rotary switch as follows.

SETTING POSITION	CABLE LENGTH	SETTING POSITION	CABLE LENGTH
7	140m	4	980m
6	420m	3	1260m
5	700m	2	1540m

VA-87A (CCU-370)/VA-87P (CCU-370P) board

- S1: CB SELECT
  CCU-370; Select either SMPTE, EIAJ or FULL position for the color-bars output signal from the CCU.
  This switch is factory-set to SMPTE.
  CCU-370P; Select either EBU or 95% CB position for the color-bars output signal from the CCU.
  This switch is factory-set to EBU.

- S2: I (CCU-370)/U (CCU-370P)
  This switch is used for the encoder circuit adjustment.
  When the switch is set to OFF, the I/U signal is not added to the chroma circuit. Therefore, the composite video signal (VB or VBS) output from the CCU-370/P does not contain the I/U signal.
  Normally set to ON.

- S3: Q (CCU-370)/V (CCU-370P)
  This switch is used for the encoder circuit adjustment.
  When the switch is set to OFF, the Q/V signal is not added to the chroma circuit. Therefore, the composite video signal (VB or VBS) output from the CCU-370/P does not contain the Q/V signal.
  Normally set to ON.

- S4: VB/VBS SYNC
  By setting the switch to ON, the sync pulse is added to the video signal output from the VB/VBS connector on the rear panel and the VBS signal is output.
  By setting the switch to OFF, the VB signal is output.
  This switch is factory-set to ON.

- S5, S6, S7: CONTRAST BOARD SELECT
  The switches S5, S6 and S7 are used to supply a signal to the optional board (BKP-3701: CONTRAST CONTROL UNIT). When using the optional board, short between pins 1 and 2 of above switches.

- S8, S9: MONI POWER (MONITOR POWER)
  MONITOR circuit is valid when using the master setup unit such as the MSU-350 and the remote control panel with MONITOR SELECT function at the same time.
  When the switches S8 and S9 are turned on, the power is supplied to the MONITOR circuit and a signal selected by the remote control panel is output at the MONITOR OUTPUT connector on the rear panel.
  This switch is factory-set to OFF.

- S10 through S15 (OPTION BOARD SELECT)
  These switches are used to supply a signal to an optional board of BKP-3702 series. When using the optional board, set the switch to OP. This switch is factory-set to STD.

- S51: H BLK (CCU-370 only)
  This switch is used to set the horizontal blanking pulse width.
  The pulse width is factory-set to 10.9 ± 0.2 µs.
  Set according to use.

- S52: V BLK (CCU-370 only)
  This switch is used to set the vertical blanking pulse width to 19H, 20H or 21H.
  The switch is factory-set to 20H. Set according to use.

- S53 (SC STEP)
  This switch is used to set the subcarrier phase.
  One step of this switch changes 90 degrees.
  The switch is valid when the switch S54 is set to LOCAL.

- S54 (REMOTE/LOCAL)
  This switch is used to select whether the H PHASE or SC PHASE synchronization with an external genlock signal is controlled by the CCU-370/P or the master setup unit such as MSU-350.
  When the switch is set to LOCAL, the CCU-370/P can control it using S53, RV108, RV109 and RV110.
  When using any of remote control panel RCP-3700 series without the H/SC PHASE control, which is connected to the CCU-370/P, set the switch to LOCAL, too.
  This switch is factory-set to REMOTE.

2-9. OPTIONAL BOARD

The following units are available as an optional board for the CCU-370/P.

- 4 WIRE INTERFACE UNIT (only for CCU-370)
  (Sony Parts No. 1-808-924-11)
  Applied to 4W system
- RTS INTERFACE UNIT (only for CCU-370P)
  (Sony Parts No. 1-808-925-11)
  Applied to RTS system
- 2 WIRE INTERFACE UNIT
  (Sony Parts No. 1-089-006-11)
  Applied to 2W system.
- CLEARCOM INTERFACE UNIT
  (Sony Parts No. 1-809-005-11)
  Applied to CLEARCOM system.

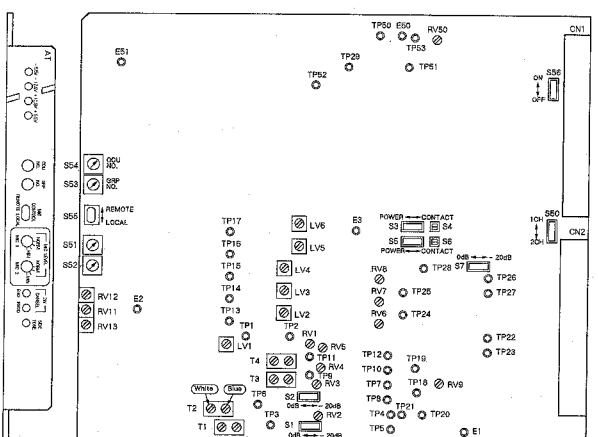
Mounting Optional board

1. Prepare two optional boards for each system.
2. Unsolder two small PC boards (address:J-6, J-7) mounted on the AT-55A/B board using desoldering tool.
3. Mount two optional boards instead.

Adjustment for System-up

The adjustment for intercom system of CCU-370/370P is required when connecting the CCU to user's intercom system.

1. Plug in the headset to the INCOM jack on the front panel of the CCU.
2. Turn ✪ RV13 SIDE TONE [PANEL] on the AT-55A/B board fully counterclockwise.
3. Set the intercom line selector on the CCU front panel to ENG.
4. While hearing your own voice, adjust ✪ RV12 (ENG CANCEL) [PANEL]on the AT-55A/B board so that your voice is minimum level.



(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

5. Set the intercom line selector on the CCU front panel to PROD.

6. While hearing your own voice, adjust ✪ RV11 (PROD CANCEL) [PANEL]on the AT-55A/B board so that your voice is minimum level.

7. Adjust ✪ RV13 SIDE TONE [PANEL] on the AT-55A/B board to your desired level.

As for the STAIRCASE adjustment, refer to Section 5 ALIGNMENT.

SECTION 3
SERVICE INFORMATION

3-1. REPLACEMENT OF MAIN PARTS

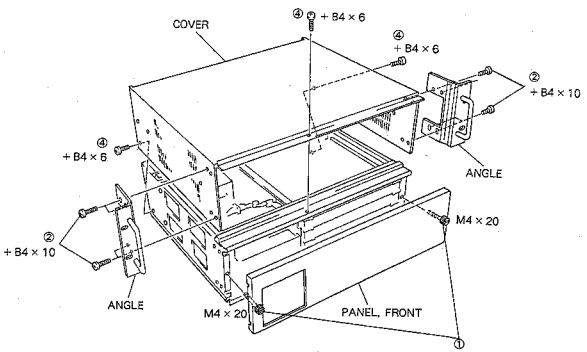
3-1-1. Cabinet Removal

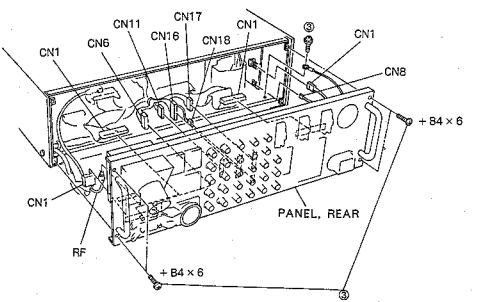
① Loosen two screws (M4 × 20) and remove the FRONT PANEL.

② To remove the left and right ANGLEs, remove the four screws (+ B 4×10) respectively.

③ Remove the four screws (+B 4×6) and disconnect 11 connectors from the REAR PANEL. After performing procedure ④ to remove the COVER, remove the screw fixing the lug. The REAR PANEL will be removed.

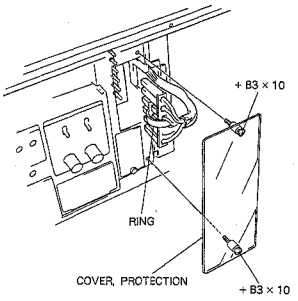
④ Remove three screws (+B 4×6) and remove the COVER.



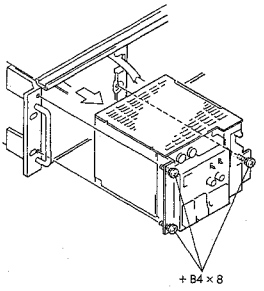


3-1-2. Replacement of Switching Regulator

1. Loosen two screws (+B 3×10) and remove the PROTECTION COVER. Disconnect the connector shown in the figure while pulling the RING.



2. Loosen three screws (+B 4×8) and remove the switching regulator.

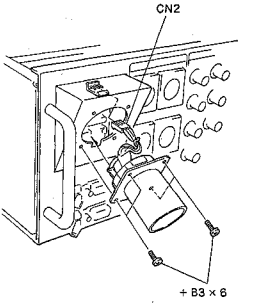


3. When installing a switching regulator, reverse the above procedures.

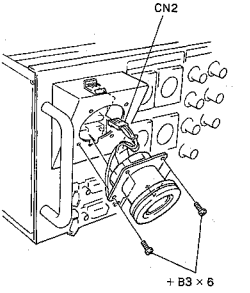
3-1-3. Replacement of Triaxial Connector

1. Remove four screws (+B 3×6). Disconnect the connector CN2 on the IO-49 board and remove the triaxial connector.

[CCU-370]



[CCU-370P]



2. When connecting a new triaxial connector, reverse the above procedures.

3-2. NOTE ON MAINTENANCE SERVICES

3-2-1. Note On Replacement Parts

1. Safety Related Components Warning
   Components identified by shading marked and ⚠ marked on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony Parts whose part numbers appear as shown in this manual or in Service bulletins and service manual supplement published by Sony.

2. Standardization of Parts
   Repair parts supplied from Sony Parts Center may not be always identical with the part which actually in use due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts". This manual's exploded views and electrical spare parts list are indicating the parts number of "the standardization genuine parts at present".

3. Stocked Parts
   The parts marked with "S" in the SP column of the exploded views and electrical spare parts list are normally required for routine service work. Order for parts marked with "O" will be processed, but allow for additional delivery time.

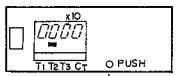
4. Units of Capacitors, Inductors, and Resistors
   The following units are omitted in the schematic diagrams, exploded views, and electrical parts lists unless otherwise specified;
   Capacitor : μF
   Inductor : μH
   Resistor : Ω

3-2-2. PROM IC

Each PROM IC no the PC board has a suffix to its original designation. This suffix may change according to improvement of IC. Never use an IC having no suffix to its original designation, because its memory has not been programmed. Each PROM IC is mounted to the PC board via socket.

3-2-3. Digital Hour Meter

The digital hour meter (CP1) is mounted on the TM-25 board in the power block. The hours meter has four display modes of T1, T2, T3 and CT and the OPERATION METER mode T1 is now used.
This mode displays accumulated elapsed operation time that the power of the unit has been turned on.
The actual operation time is equal to the displayed value multiplied by 10.

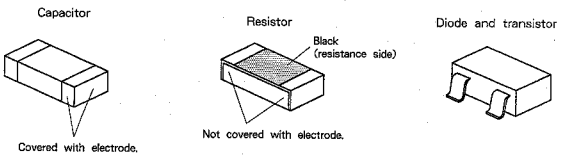


Display mode Mode select switch

It is recommended to perform the periodic check and maintenance based on the hour meter.
Note: The hour meter has a built-in battery which should be replaced every five years.
(Sony Parts No. 1-548-152-11)

MULTIMEDIA & OPTICAL INFORMATION

3-2-4. Replacement of Chip Parts



Tools required

- Soldering iron of approx. 20W (Use a temperature controller, if possible, which can control the iron temperature to 270 ± 10 °C.)
- Desoldering metal braid (Parts No. 7-641-300-81)
- Solder (A solder of 0.6mm in diameter is recommended.)
- Tweezers

Soldering conditions

- Iron temperature of 270 ± 10 °C
- Soldering should be performed within two seconds.

Procedures

1. To remove a resistor or capacitor, place the tip of a soldering iron on chip parts to heat the parts, and then move it horizontally for removal while being desoldered. For removal of a diode or transistor, heat the one side, with two pins, of chip parts at the same time. Set the parts up when desoldered and remove two pins. And then remove the pin on another side.
2. Absorb solder by using a desoldering metal braid to smooth the land surface after removal.
3. Confirm by visual check that no trace is come off, no adjacent parts is damaged and no bridging occur.
4. Perform a thin pretinning on the trace.
5. Place new chip parts on the trace to solder its both sides.

Note: Do not reuse parts which have been removed.

For details, see "CHIP COMPONENTS manual" (Parts No. 9-963-089-01) prepared by Sony Corporation.

SECTION 4
ALIGNMENT

4-1. PREPARATION

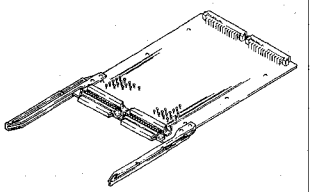
4-1-1. Equipment Required

- Oscilloscope (more than 300 MHz)
  Tektronix 2465 or equivalent
- Waveform monitor
  Tektronix 1485R or equivalent
- Color monitor
  Sony PVM-1320P or equivalent
- PAL vectorscope
- Video signal generator
  Tektronix 1411 or equivalent
- Digital voltmeter
- Frequency counter
- Audio generator
- Spectrum analyzer
- DC power supply

4-1-2. Jig

A-7515-097-A	Extension Board EX-240

Supplied accessory



4-1-3. Connection

Note: Make sure that the adjustment for BVP-370/370P must be completed.

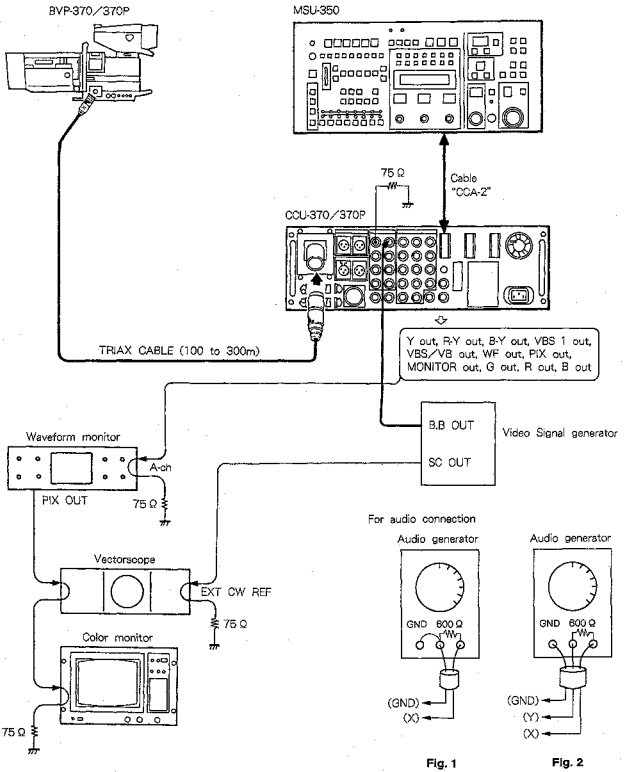


Fig. 1 Fig. 2

4-1-4. Initial setting

CCU-370P

[VA-87P board]

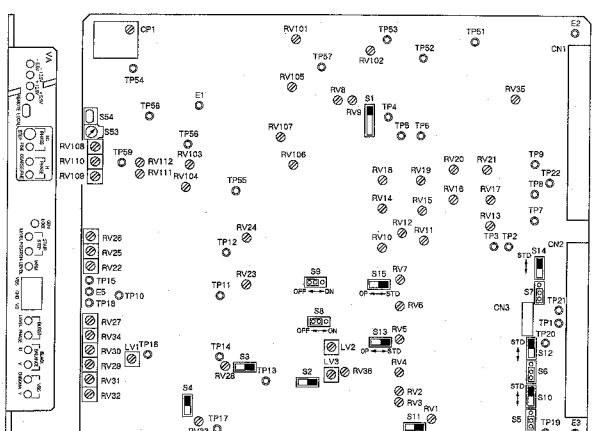
S1 (CB SELECT)	"EBU"
S2 (V)	"ON"
S3 (U)	"ON"
S4 (DL SYNC)	"OFF"
S10 (Y STD/OPTION)	"STD"
S11 (Y STD/OPTION)	"STD"
S12 (R-Y STD/OPTION)	"STD"
S13 (R-Y STD/OPTION)	"STD"
S14 (B-Y STD/OPTION)	"STD"
S15 (B-Y STD/OPTION)	"STD"
S54 (REMOTE/LOCAL)	"LOCAL"

[DM-79 baord]

S1 (CABLE COMP AUTO/MANU)	"AUTO"
SP1 (YD 2nd AGC)	"ON"
SP2 (CD 2nd AGC)	"ON"

[AT-55B board]

S1 (MIC 1 GAIN)	"0dB"
S2 (MIC 2 GAIN)	"0dB"
S7 (PGM GAIN)	"0dB"
S55 (REMOTE/LOCAL)	"REMOTE"
S50 (INCOM 1CH/2CH)	"2CH"



(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

MSU-350

- SIGNAL SELECT BLOCK
  - PANEL ACTIVE button "ON (light up)"
  - CAM POWER button "ON (light up)"
  - TEST 1 button "OFF (light off)"
  - TEST 2 button "OFF (light off)"
  - BARS button "OFF (light off)"
  - CLOSE button "OFF (light off)"
- MODE SELECT BLOCK
  - DETAIL OFF button "OFF (light up)"
  - KNEE OFF button "OFF (light up)"
  - AUTO KNEE button "OFF (light off)"
  - MATRIX button "OFF (light off)"
- AUTO SETUP BLOCK
  - LEVEL button "OFF (light off)"
  - WHITE button "OFF (light off)"
  - BLACK button "OFF (light off)"
- OTHERS
  - GAMMA SELECT button "0.45"
  - MASTER GAIN button "0"
  - ND button "1"
  - CC button "B"

4-1-5. Notes on adjustment

Note:
- When adjusting STAIR CASE adjustment and R/G/B SEQ adjustment, connect button WF MODE connector of CCU-370/370P rear panel and remote control connector of waveform monitor with 4 pin cord. (Regarding the 4 pin cord, refer to Section 2)
- Do not turn the adjustment core from FL1 to FL24 (except FL4) on the DM-79 board. Replace new filter when the filter is out of order, and the adjustment for new part is not required.

4-2. ADJUSTMENT ITEMS

STEP1. VIDEO SIGNAL SYSTEM ADJUSTMENT (VA-87P BOARD)

1-1. REG +5V Adjustment (VA-87P Board)
1-2. Subcarrier Frequency Adjustment
1-3. SC Phase Variable Range Adjustment
1-4. Sync Phase Adjustment
1-5. BF Pulse Adjustment
1-6. CHU H Phase Adjustment
1-7. H Phase Adjustment
1-8. Color Bar White Balance Adjustment
1-9. Y BLKG Cleaning Adjustment
1-10. Y Level Adjustment
1-11. Y Sync Phase Adjustment
1-12. R-Y Black Balance Adjustment
1-13. R-Y Out Level Adjustment
1-14. B-Y Black Balance Adjustment
1-15. B-Y Out Level Adjustment
1-16. VBS Out Level Adjustment
1-17. VBS Sync Phase Adjustment
1-18. VB Out Level Adjustment
1-19. U•V Carrier Balance Adjustment
1-20. V Level Adjustment
1-21. U Level Adjustment
1-22. U•V Axis Right Crossing Adjustment
1-23. Burst Adjustment
1-24. WF Out Level Adjustment
1-25. Pix Out Level Adjustment
1-26. Monitor Out Level Adjustment
1-27. G Level Adjustment
1-28. R Level Adjustment
1-29. B Level Adjustment
1-30. G Out Level Adjustment
1-31. R Out Level Adjustment
1-32. B Out Level Adjustment
1-33. Stair Case Adjustment
1-34. R/G/B SEQ Adjustment

STEP2. CABLE COMPENSATION SYSTEM ADJUSTMENT (DM-79 BOARD)

2-1. REG +9V/+5V Adjustment (DM-79 Board)
2-2. Y 1st AGC Adjustment
2-3. Sync Sep Adjustment
2-4. Black Pulse width Adjustment
2-5. Sync Sample Hold Pulse Width Adjustment
2-6. 18 MHz VCO DC Set Adjustment
2-7. Sample Pulse Width Adjustment
2-8. Sample Pulse V Gate Width Adjustment
2-9. 18 MHz Carrier Level Adjustment
2-10. YD Demod Adjustment
2-11. YD Output Level Adjustment
2-12. CD 1st AGC Adjustment
2-13. 36 MHz Carrier Level Adjustment
2-14. CD PLL Set Adjustment
2-15. B-Y Demod Carrier Balance Adjustment
2-16. B-Y Crosstalk Adjustment
2-17. B-Y Out Level Adjustment
2-18. R-Y Demod Carrier Balance Adjustment
2-19. R-Y Crosstalk Adjustment
2-20. R-Y Out Level Adjustment
2-21. Return Video Carrier Frequency Adjustment
2-22. Return Video Deviation Adjustment

STEP3. TRIAX INTERFACE SYSTEM ADJUSTMENT (AT-55B BOARD)

3-1. REG +5V Adjustment (AT-55B Board)
3-2. Frequency Setting Adjustment
3-3. INCOM 1 Deviation Adjustment
3-4. INCOM 2 Deviation Adjustment
3-5. PGM Deviation Adjustment
3-6. INCOM 1 Demod Adjustment
3-7. INCOM 1 Level Adjustment
3-8. INCOM 2 Demod Adjustment
3-9. INCOM 2 Level Adjustment
3-10. MIC 1 Demod Adjustment
3-11. MIC 1 Level Adjustment
3-12. MIC 2 Demod Adjustment
3-13. MIC 2 Level Adjustment
3-14. CHU Data Demod Adjustment
3-15. CHU Tone Adjustment

STEP4. INTERCOM SYSTEM ADJUSTMENT

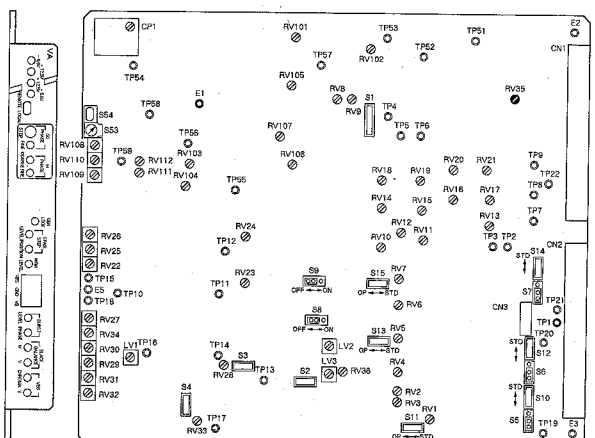
4-1. INCOM (T) Level Set
4-2. INCOM (R) Level Set
4-3. PGM (R) Level Adjustment
4-4. ENG Cancel Adjustment
4-5. PROD Cancel Adjustment
4-6. Side Tone Adjustment

STEP1. VIDEO SIGNAL SYSTEM ADJUSTMENT (VA-87P BOARD)

1-1. REG +5V ADJUSTMENT (VA-87P BOARD)

Note: This adjustment influences operation of VA-87P board, therefore, when this adjustment is carried out, all of the Video Signal System adjustments must be performed. perform the adjustment when measured voltage is more than ± 1% with respect to the specified voltage.

Equipment: Digital voltmeter
To be extended: VA-87P board
Test point: TP1 (GND; E1)/VA-87P board
Adjusting point: ◐ RV35/VA-87P board
Specification: +5.0 ± 0.02 Vdc



(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

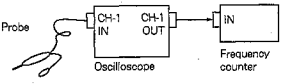
1-2. SUBCARRIER FREQUENCY ADJUSTMENT

Note: Check to see that the signal is not input to the REFERENCE input connector of the rear panel on the CCU.

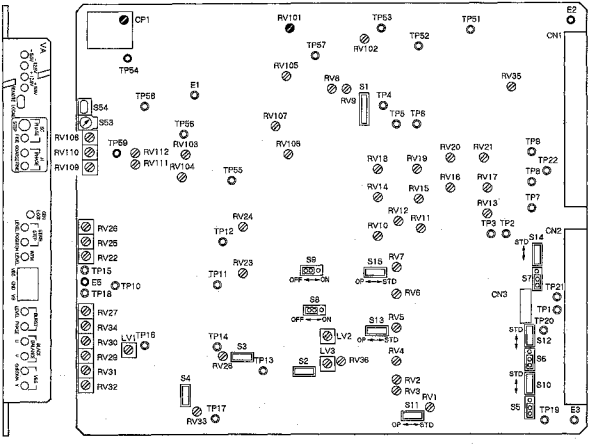
Equipment: Digital voltmeter, Oscilloscope, Frequency counter
To be extended: VA-87P board

Adjustment procedures

1. Test point: TP54(GND;E2)/VA-87P board
   Adjusting point: ◐ RV101/VA-87P board
   Specification: 2.5 ± 0.1Vdc
2. Connect the oscilloscope and Frequency counter as follows.



3. Test point:TP59(GND;E5)/VA-87P board
   Adjusting point: Potentiometer on the top of CP1
   Specification: 4,433,619 ± 2 Hz



(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

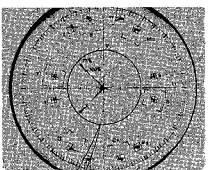
1-3. SC PHASE VARIABLE RANGE ADJUSTMENT

Note: Gen-lock CCU-370P and Video signal generator.

Equipment: Vectorscope
To be extended: VA-87P board
Preparation

- BARS button/MSU-350→"ON"
- Input SC (Sub carrier) signal to EXT CW connector on the vectorscope from the video signal generator, and set REF (EXT/INT) switch to "EXT".

Test point: VBS 1 OUT connector/rear panel
Specification: 95 ± 5°



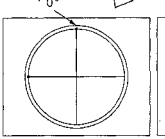


Fig. 1

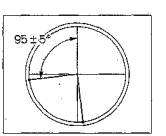
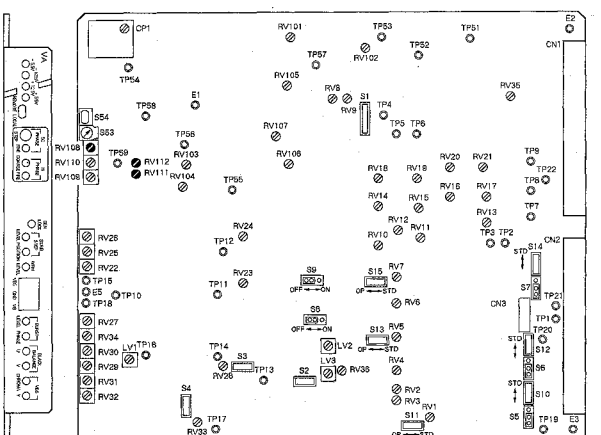


Fig. 2

Adjustment Procedures

1. ● RV112/VA-87P board→mechanical center
   ● RV111/VA-87P board→mechanical center
2. ● RV108/VA-87P board→fully clockwise ○
3. Adjust PHASE control and VAR GAIN control on the Vectorscope as shown in Fig-1.
4. ● RV108/VA-87P board→fully counterclockwise ○
5. Adjust ● RV111 so that SC phase 95 ± 5° as shown in Fig-2.
6. Repeat procedure 2 through 5 until the specification is met.



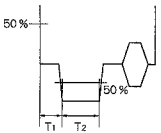
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

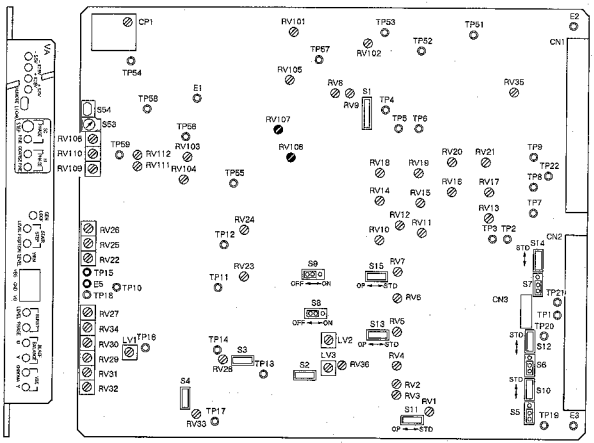
1-4. SYNC PHASE ADJUSTMENT

Object: Overall white (white portion of the pattern box)
Equipment: Oscilloscope
To be extended: VA-87P board
Preparation

- CLOSE button/MSU-350→"OFF"
- IRIS AUTO button/MSU-350→"ON"
- Adjust the zoom control of the lens so that the white portion of the pattern box fully occupies the monitor screen.

Test point: TP15(GND;E5)/VA-87P board
Adjusting point: ● RV106/VA-87P board
● RV107/VA-87P board
Specification: T1= ● RV106=1.65 ± 0.1 μs
T2= ● RV107=4.7 ± 0.1 μs





(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

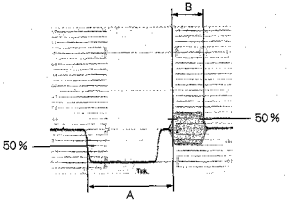
Note: After the adjustment, set IRIS AUTO button/MSU-350 to "OFF".

1-5. BF PULSE ADJUSTMENT

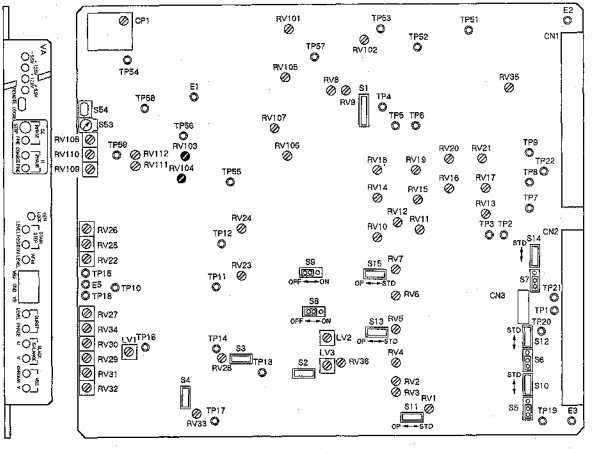
Equipment: Waveform monitor
To be extended: VA-87P board
Test point: VBS1 OUT connector/rear panel

Adjustment Procedures

1. Adjusting point: ✪ RV103/VA-87P board
   Specification: A=5.6 ± 0.1 µs

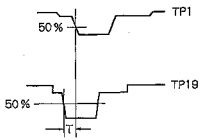


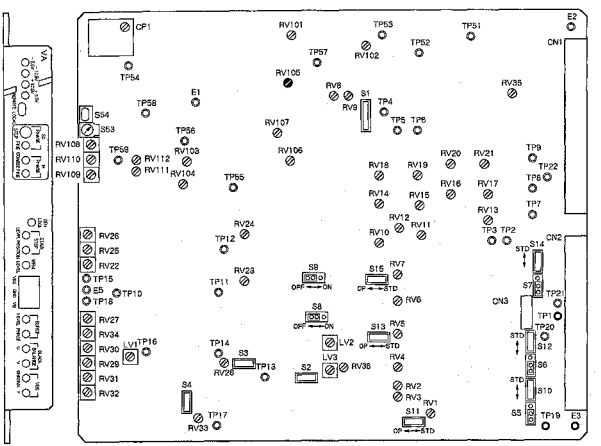
2. Adjusting point: ✪ RV104/VA-87P board
   Specification: B=2.25 ± 0.2 µs



1-6. CHU H PHASE ADJUSTMENT

Equipment: Oscilloscope (CHOP mode)
To be extended: VA-87P board
Test point: CH1:TP1(GND;E3)/VA-87P board
CH2:TP19(GND;E3)/VA-87P board
Adjusting point: ● RV105/VA-87P board
Specification: T=0 ± 0.1 μ s

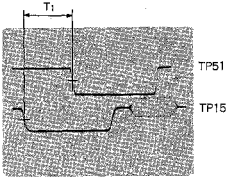




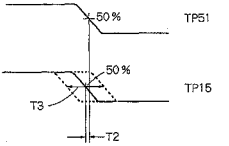
1-7. H PHASE ADJUSTMENT

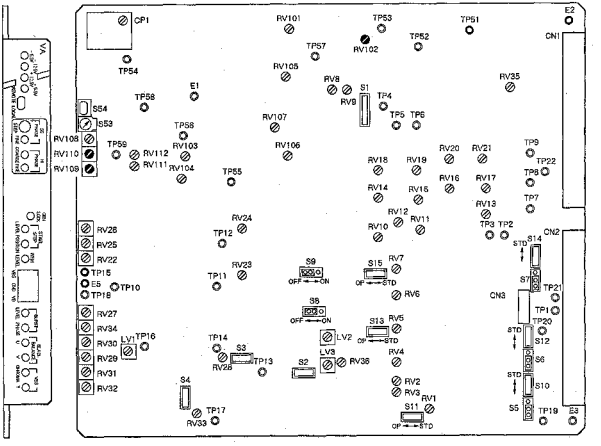
Equipment: Oscilloscope (CHOP mode)
To be extended: VA-87P board
Preparation
- Gen-lock CCU-370P and Video signal generator.
- S54 (REMOTE/LOCAL) switch/VA-87P board→"LOCAL"

Test point: CH1:TP51 (GND;E2)/VA-87P board
CH2:TP15 (GND; E5)/VA-87P board
Adjusting point: ● RV102/VA-87P board
● RV110/VA-87P board



Adjusting Procedures
1. ● RV109/VA-87P board→fully clockwise ○
   ● RV110/VA-87P board→fully clocksise ○
2. Adjust ● RV102/VA-87P board so that "T1" is 2.6 ± 0.1 μs.
3. Adjust● RV110/VA-87P board so that "T2" is 0± 0.1 μ s.
4. Check the variable range of ● RV109 that "T3" is within 150 – 300 ns, and then, set it mechanical center.





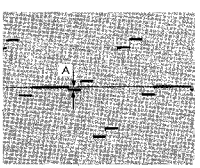
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-8. COLOR BAR WHITE BALANCE ADJUSTMENT

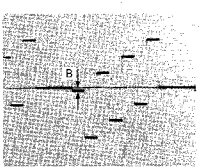
Equipment: Oscilloscope
To be extended: VA-87P board
Preparation
- BARS button/MSU-350→"ON"

Adjustment Procedures

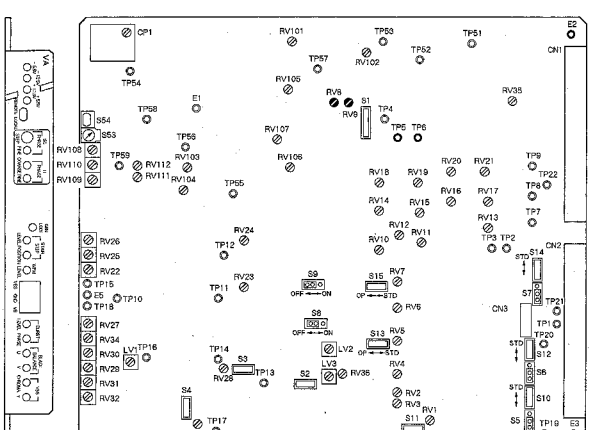
1. Test point: TP5 (GND; E2)/VA-87P board
   Adjusting point: ✪ RV8/VA-87P board
   Specification: A=0 ± 5 mV



2. Test point: TP6 (GND; E2)/VA87P board
   Adjusting point: ✪ RV9/VA-87P board
   Specification: B=0 ± 5 mV



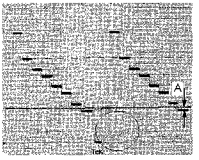
3. Repeat procedures 1 and 2 several times until the specifications are met.

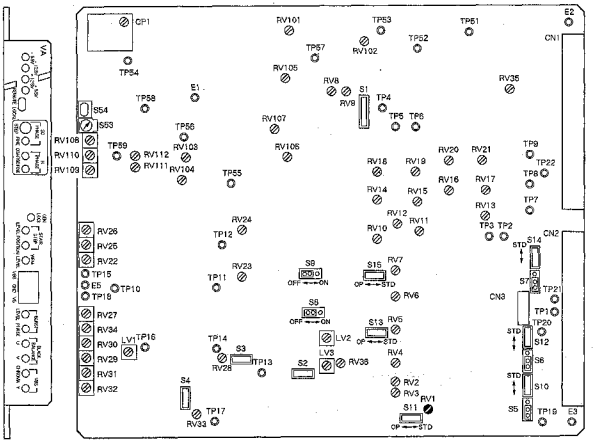


1-9. Y BLKG CLEANING ADJUSTMENT

Equipment: Waveform monitor
To be extended: VA-87P board
Preparation
- BARS button/MSU-350 → "ON"

Test point: Y OUT connector/rear panel
Adjusting point: ● RV1/VA-87P board
Specification: A=0 ± 5 mV





(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

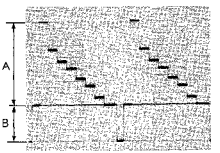
1-10. Y LEVEL ADJUSTMENT

Equipment: Waveform monitor
To be extended: VA-87P board
Preparation
- BARS button/MSU-350 → "ON"

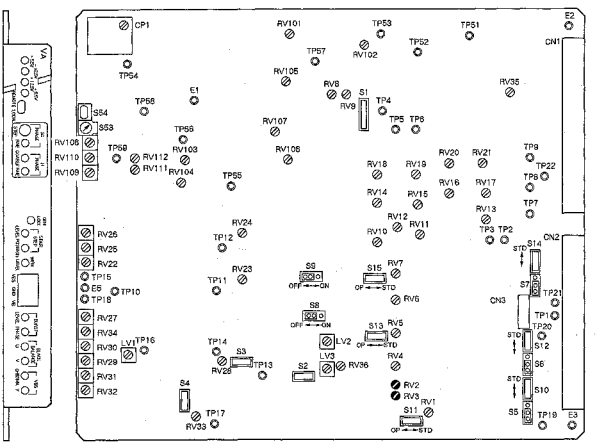
Test point: Y OUT connector/rear panel

Adjustment Procedures

1. Adjusting point: RV2/VA-87P board
   Specification: A=700 ± 10 mV



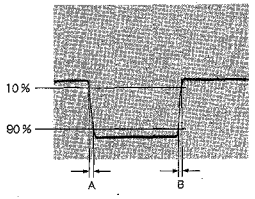
2. Adjusting point: RV3/VA-87P board
   Specification: B=300 ± 5 mV

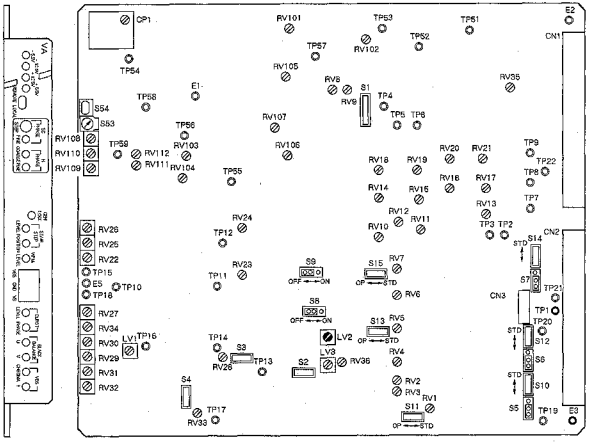


(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-11. Y SYNC PHASE ADJUSTMENT

Equipment: Oscilloscope
To be extended: VA-87P board
Preparation
• Y OUT connector/rear panel → 75 Ω termination
Test point: TP1 (GND; E3)/VA-87P board
Adjusting point: ◐ LV2/VA-87P board
Specification: A ≒ B=250 ± 50 nS
(Be sure to disappear the overshoot and undershoot.)



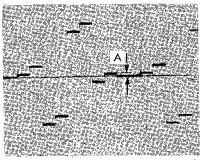


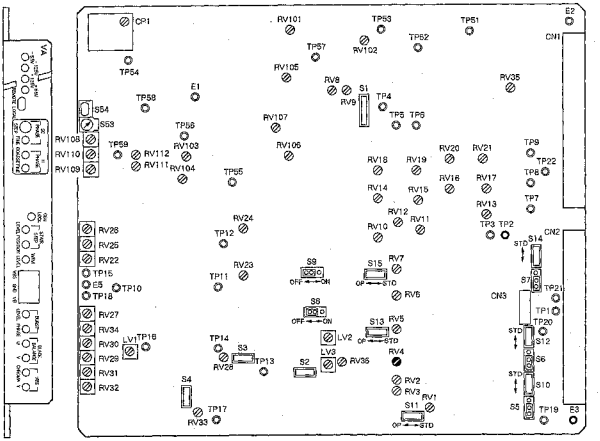
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-12. R-Y BLACK BALANCE ADJUSTMENT

Equipment: Oscilloscope
To be extended: VA-87P board
Preparation
- BARS button/MSU-350 → "ON"
- R-Y OUT connector/rear panel → 75 Ω termination

Test point: TP2 (GND; E3)/VA-87P board
Adjusting point: ◐ RV4/VA-87P board
Specification: A=0 ± 5 mV



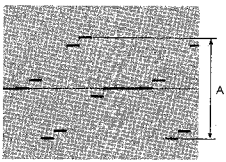


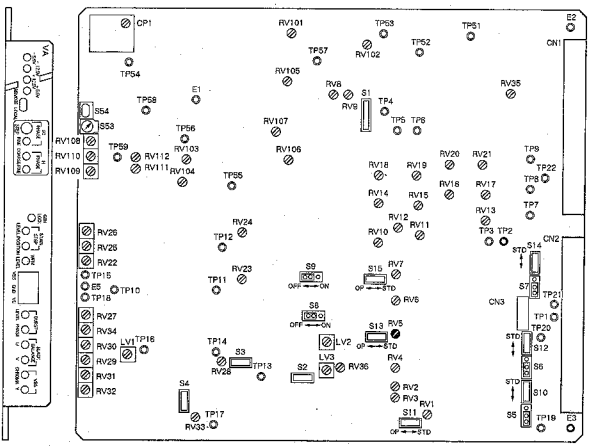
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-13. R-Y OUT LEVEL ADJUSTMENT

Equipment: Oscilloscope
To be extended: VA-87P board
Preparation
- BARS button/MSU-350→"ON"
- R-Y OUT connector/rear panel→75 Ω termination

Test point: TP2 (GND; E3)/VA-87P board
Adjusting point: ◐RV5/VA-87P board
Specification: A=525 ± 5 mVp-p





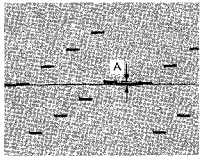
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

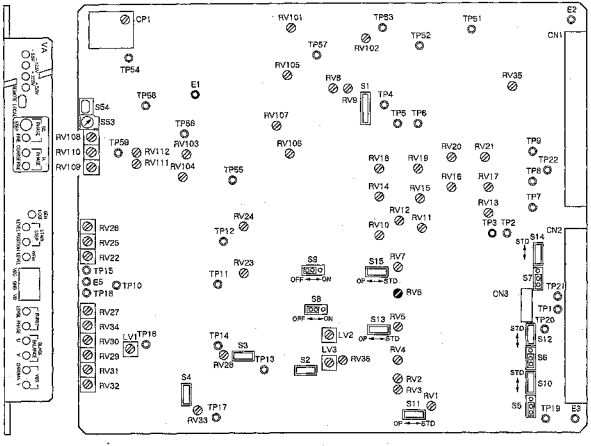
1-14. B-Y BLACK BALANCE ADJUSTMENT

Equipment: Oscilloscope
To be extended: VA-87P board
Preparation
- BARS button/MSU-350→"ON"
- B-Y OUT connector/rear panel→75 Ω termination

Test point: TP3 (GND; E1)/VA-87P board
Adjusting point: ◐ RV6/VA-87P board

Specification: A=0 ± 5 mV



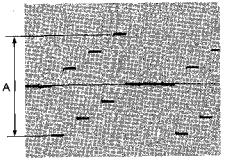


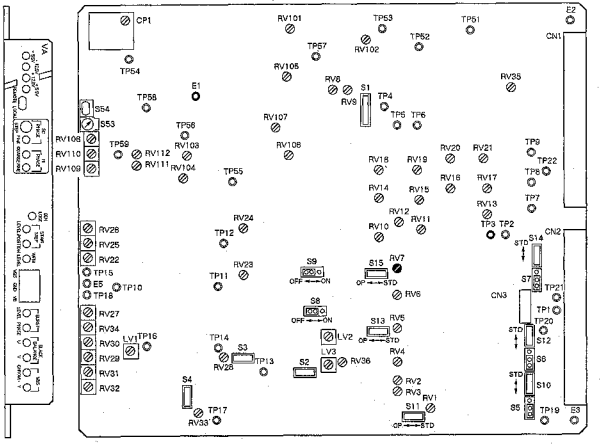
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-15. B-Y OUT LEVEL ADJUSTMENT

Equipment: Oscilloscope
To be extended: VA-87P board
Preparation
- BARS button/MSU-350→"ON"
- B-Y OUT connector/rear panel→75 Ω termination

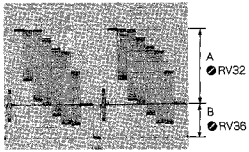
Test point: TP3 (GND; E1)/VA-87P board
Adjusting point: ◐ RV7/VA-87P board
Specification: A=525 ± 5 mVp-p

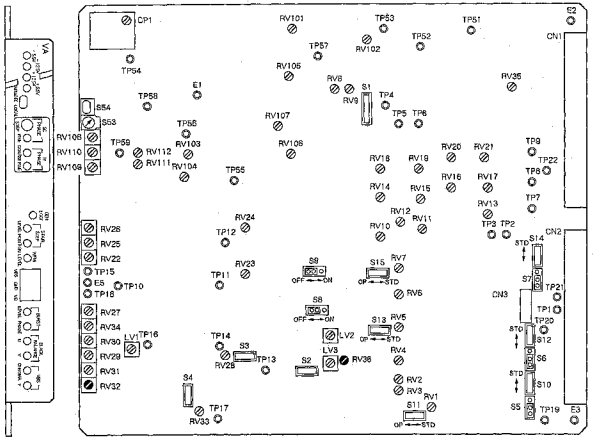




1-16. VBS OUT LEVEL ADJUSTMENT

Equipment: Waveform monitor
To be extended: VA-87P board
Preparation
• BARS button/MSU-350→"ON"
Test point: VBS 1 OUT connector/rear panel
Adjusting point: ◐RV32, ◐RV36/VA-87P board
Specification: A=700 ± 10mV (◐RV32)
B=300 ± 5 mV(◐RV36)



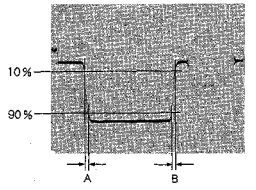


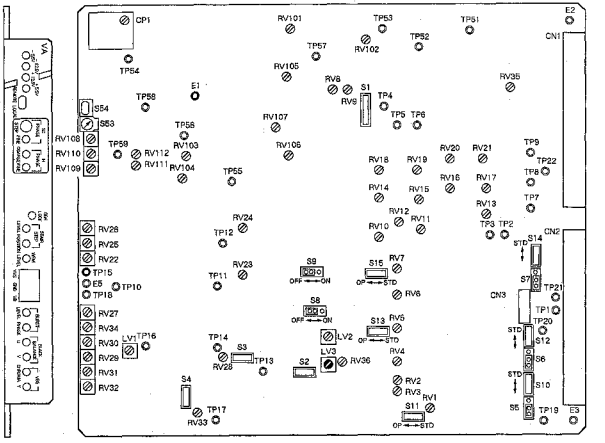
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-17. VBS SYNC PHASE ADJUSTMENT

Equipment: Oscilloscope
To be extended: VA-87P board
Preparation
- BARS button/MSU-350→"ON"
- VBS 1 OUT connector/rear panel→75 Ω termination

Test point: TP15 (GND; E1)/VA-87P board
Adjusting point: ◐ LV3/VA-87P board
Specification: A ≒ B=250 ± 50 ns
(Be sure to disappear the overshoot and undershoot.)

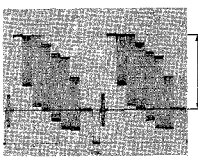


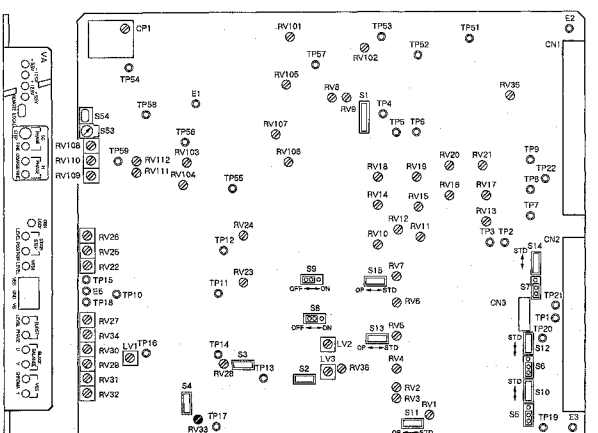


(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-18. VB OUT LEVEL ADJUSTMENT

Equipment: Waveform monitor
To be extended: VA-87P board
Preparation
• BARS button/MSU-350 → "ON"
Test point: VBS/VB OUT connector/rear panel
Adjusting point: ◐ RV33/VA-87P board
Specification: A=700 ± 10 mV



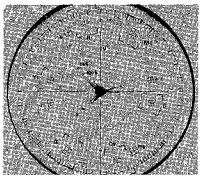


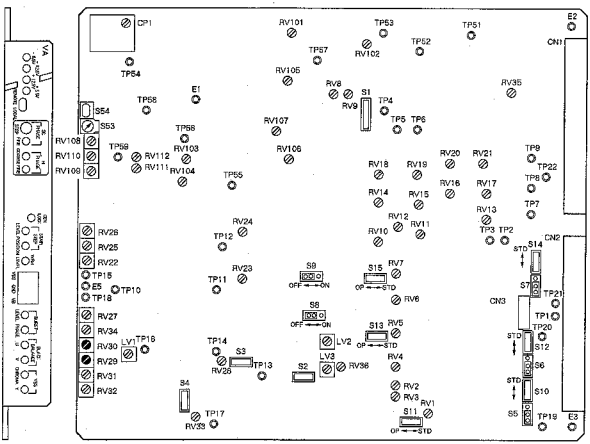
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-19. U·V CARRIER BALANCE ADJUSTMENT

Equipment: Vectorscope
To be extended: VA-87P board
Preparation
- Put the vectorscope to MAX GAIN mode.
- BARS button/MSU-350→"ON"

Test point: VBS 1 OUT connector/rear panel
Adjusting point: ⊘RV30 (V BALANCE)/VA-87P board
⊘RV29 (U BALANCE)/VA-87P board
Specification: Adjust the beam spot of the black level to the center of the vectorscope.





(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-20. V LEVEL ADJUSTMENT

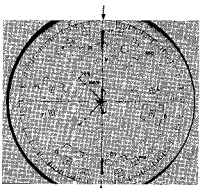
Equipment: Vectorscope (EXT REF mode)
To be extended: VA-87P board
Preparation

- S2 (V)/VA-87P board → "ON"
- S3 (U)/VA-87P board → "OFF"
- BARS button/MSU-350 → "ON"

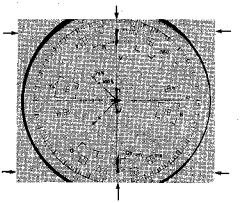
Test point: VBS 1 OUT connector/rear panel

Adjustment Procedures

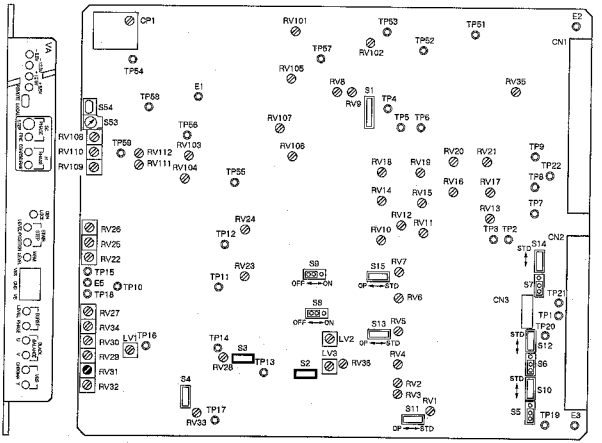
1. Overlap the V signal component to the V axis with PHASE control on the vectorscope.



2. Adjust both tips of the V signal component for proper V level with ⊘ RV31 (CHROMA GAIN) on the VA-87P board.



Note: After the adjustment, set as follows.
S3 (U)/VA-87P board → "ON"


CP1
RV101
TP53
TP51
E2
CN1
TP57
TP62
RV102
TP54
RV105
RV8
RV9
S1
TP4
RV36
TP58
E1
TP5
TP6
SS4
SS3
TP56
RV107
RV109
RV110
RV108
TP59
RV112
RV103
RV111
RV104
TP55
RV20
RV21
TP9
TP22
RV18
RV19
RV16
RV17
TP8
RV14
RV15
RV13
TP7
RV12
RV24
RV10
RV11
TP3
TP2
CN2
S14
TP12
RV26
RV25
RV22
RV23
S9
S15
RV7
TP15
TP10
E5
TP18
TP11
OFF ON
OFF STD
RV6
CN3
TP21
S8
TP1
RV27
RV34
RV30
LV1
TP16
TP14
S3
S13
RV5
TP20
S12
RV29
RV31
RV32
TP13
RV28
S2
LV2
LV3
RV35
RV4
S6
S4
RV2
RV3
RV1
S10
S11
TP19
E3
TP17
RV33
OFF STD
STD
VA
CN1
CN2
CN3
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
E1
E2
E3
E5
TP1
TP2
TP3
TP4
TP5
TP6
TP7
TP8
TP9
TP10
TP11
TP12
TP13
TP14
TP15
TP16
TP17
TP18
TP19
TP20
TP21
TP22
LV1
LV2
LV3
RV1
RV2
RV3
RV4
RV5
RV6
RV7
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RV9
RV10
RV11
RV12
RV13
RV14
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RV16
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RV30
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RV32
RV33
RV34
RV35
RV36
RV101
RV102
RV103
RV104
RV105
RV106
RV107
RV108
RV109
RV110
RV111
RV112
TP51
TP52
TP53
TP54
TP55
TP56
TP57
TP58
TP59
TP62
CP1
SS3
SS4
VBS 1 OUT
VBS 2 OUT
VBS 3 OUT
VBS 4 OUT
SYNC SELECT
SYNC
BLK
SC
SC PHASE
PANEL
PANEL
PANEL

1-21. U LEVEL ADJUSTMENT

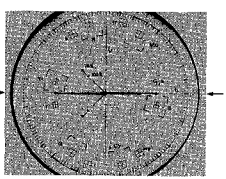
Equipment: Vectorscope (EXT REF mode)
To be extended: VA-87P board
Preparation

- S2 (V)/VA-87P board → "OFF"
- S3 (U)/VA-87P board → "ON"
- BARS button/MSU-350 → "ON"

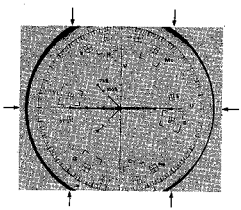
Test point: VBS 1 OUT connector/rear panel

Adjustment Procedures

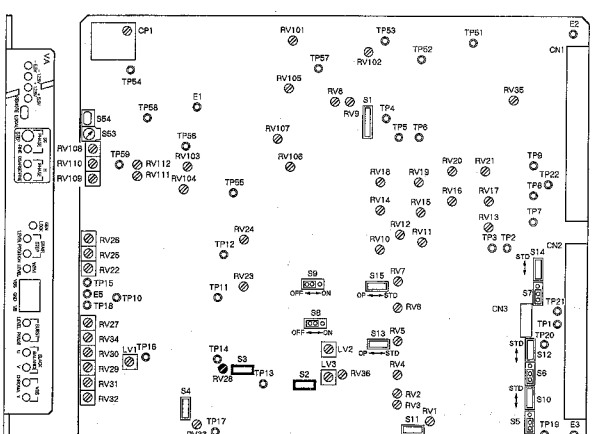
1. Overlap the U signal component to the U axis with PHASE control on the vectorscope.



2. Adjust both tips of the U signal component for proper U level with ● RV28 (U GAIN) on the VA-87P board.



Note: After the adjustment, set as follows.
S2 (V)/VA-87P board → "ON"



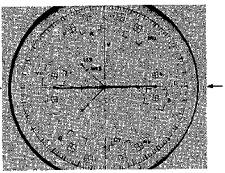
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-22. U-V AXIS RIGHT CROSSING ADJUSTMENT

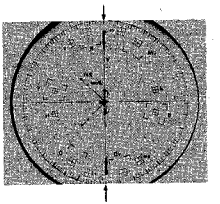
Equipment: Vectorscope (EXT REF mode)
To be extended: VA-87P board
Preparation
• BARS button/MSU-350 → "ON"
Test point: VBS 1 OUT connector/rear panel

Adjustment Procedures

1. S2 (V)/VA-87P board → "OFF"
   S3 (U)/VA-87P board → "ON"
   Overlap the U signal component to the U axis with the PHASE control on the vectorscope.

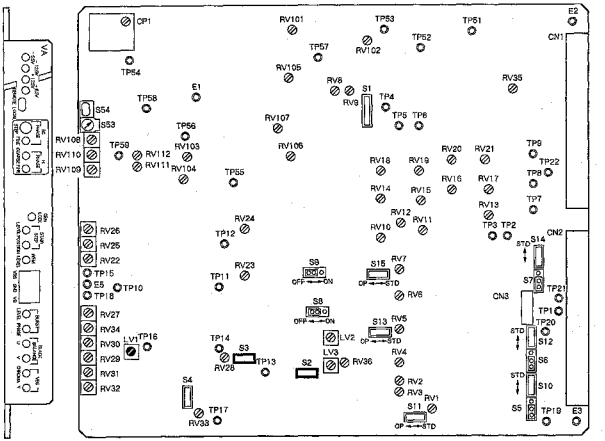


2. S2 (V)/VA-87P board → "ON"
   S3 (U)/VA-87P board → "OFF"
   Overlap the V signal component to the V axis with ● LV1 (SC PHASE) on the VA-87P board.



3. Repeat procedures 1 and 2 until both U and V signals overlap their respective axis.

Note: After the adjustment, set as follows.
S2 (V)/VA-87P board → "ON"
S3 (U)/VA-87P board → "ON"



(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-23. BURST ADJUSTMENT

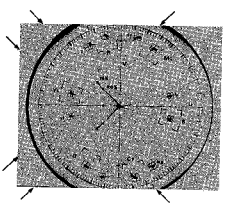
Equipment: Vectorscope (75% mode)
To be extended: VA-87P board
Preparation
- BARS button/MSU-350→"ON"

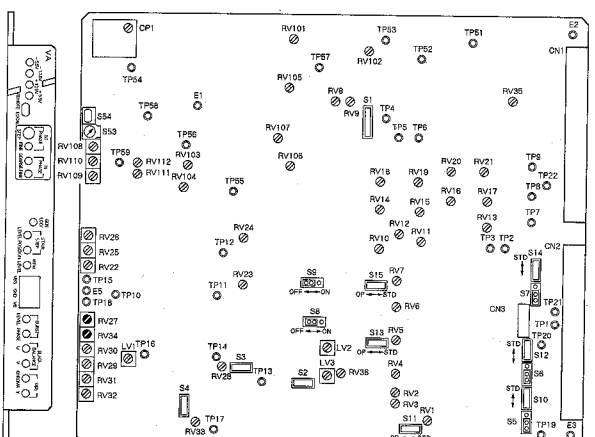
Test point: VBS 1 OUT connector/rear panel

Adjustment Procedures

1. Adjust ✪ RV34 (BURST PHASE) on the VA-87P board and PHASE control on the vectorscope so that the beam spots overlap with the boxes and the burst signal overlaps with 75% scale on the vectorscope screen.

2. Adjust ✪ RV27 (BURST GAIN)/VA-87P board so that the beam spots at both ends of the burst signal is overlapped with the 75% scale marks on the vectorscope screen.



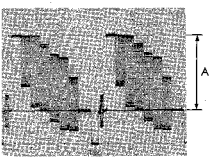


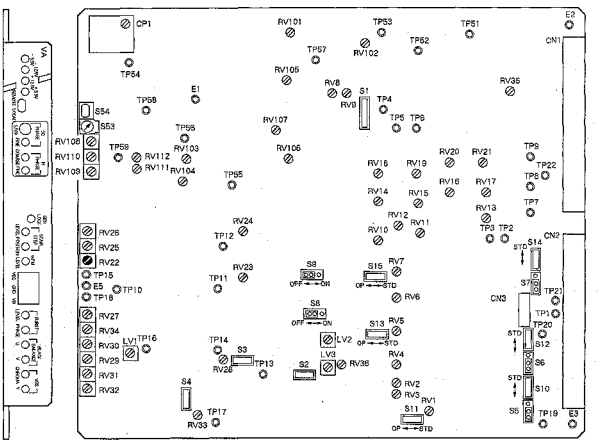
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-24. WF OUT LEVEL ADJUSTMENT

Equipment: Waveform monitor
To be extended: VA-87P board
Preparation
- BARS button/MSU-350→"ON"
- WAVEFORM MONITOR button/MSU-350→"ENC"

Test point: WF OUT connector/rear panel
Adjusting point: ◆RV22/VA-87P board
Specification: A=700 ± 10 mV



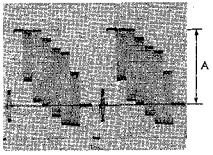


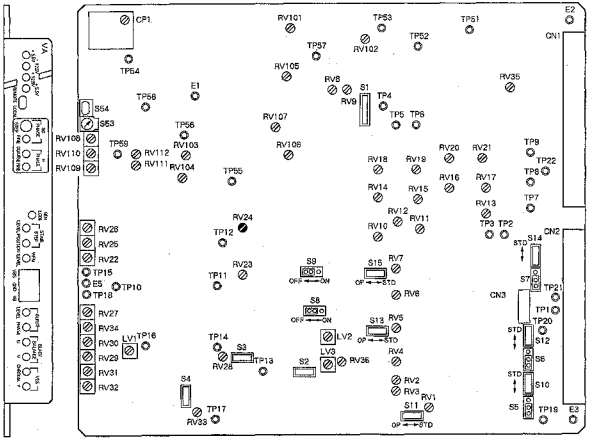
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-25. PIX OUT LEVEL ADJUSTMENT

Equipment: Waveform monitor
To be extended: VA-87P board
- BARS button/MSU-350 → "ON"
- PICTURE MONITOR button/MSU-350 → "ENC"

Test point: PIX OUT connector/rear panel
Adjusting point: ● RV24/VA-87P board
Specification: A=700 ± 10 mV





(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

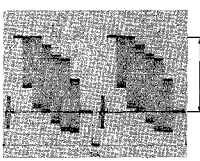
1-26. MONITOR OUT LEVEL ADJUSTMENT

Note: Make sure that CCU-370P is not connected to RCP-3730/3731 series.

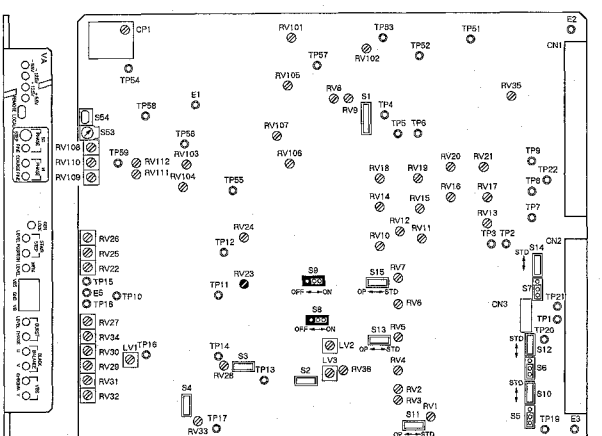
Equipment: Waveform monitor
To be extended: VA-87P board
Preparation

- BARS button/MSU-350 → "ON"
- WAVEFORM MONITOR button/MSU-350 → "ENC"
- S8/VA-87P board → "ON"(connector side)
- S9/VA-87P board → "ON"(connector side)

Test point: MONITOR OUT connector/rear panel
Adjusting point: ◐ RV23/VA-87P board
Specification: A=700 ± 10 mV



Note: After the adjustment, set S8 and S9 switches as follows, if MONITOR OUT signal is not used.
S8/VA-87P board → "OFF"
S9/VA-87P board → "OFF"



(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-27. G LEVEL ADJUSTMENT

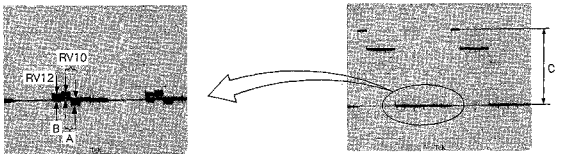
Equipment: Waveform monitor
To be extended: VA-87P board
Preparation
- BARS button/MSU-350 → "ON"
- WAVEFORM MONITOR button/MSU-350 → "G"

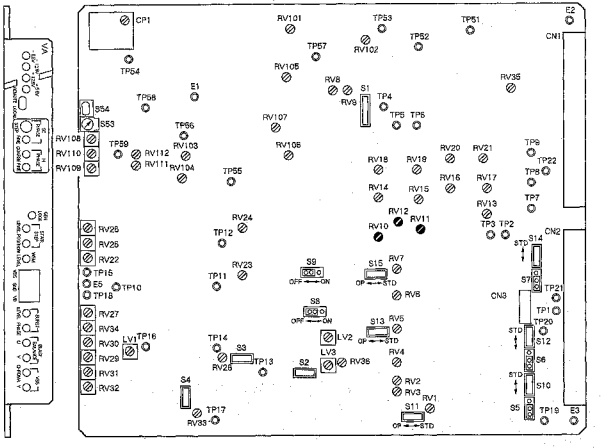
Test point: WF OUT connector/rear panel

Adjustment Procedures

1. Adjusting point: RV10, RV12/VA-87P board
   Specification: A=B=0 $^{+10}_{0}$ mV

2. Adjusting point: RV11/VA-87P board
   Specification: C=700 ± 10 mV




CP1
RV101
TP53
TP51
E2
TP57
RV102
TP52
CN1
TP54
RV105
RV8
S1
RV35
TP4
RV5
TP58
E1
TP5
TP6
S54
S53
TP56
RV107
RV103
RV106
TP9
RV108
TP59
RV112
RV20
RV21
TP22
RV110
RV111
RV104
RV18
RV19
TP8
RV109
TP55
RV16
RV17
RV14
RV15
RV13
TP7
RV12
RV24
RV11
TP3
TP2
CN2
RV26
TP12
RV10
S14
RV25
RV22
RV23
S9
RV7
S15
TP15
TP11
TP21
E5
TP10
RV6
CN3
TP18
S8
TP1
RV27
S13
RV5
TP20
RV34
LV2
RV30
TP16
LV1
TP14
S3
S12
RV29
TP13
LV3
RV36
RV4
S6
RV28
S2
RV31
RV2
S10
RV32
RV3
RV1
S4
S11
S5
TP19
E3
TP17
RV33
VA
AUDIO
VIDEO
SYNC
BURST
CHROMA
SUB
TEST SIGNAL
SYNC
BURST
CHROMA
SUB
VIDEO
AUDIO

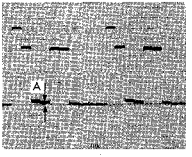
1-28. R LEVEL ADJUSTMENT

Equipment: Waveform monitor
To be extended: VA-87P board
Preparation
- BARS button/MSU-350 → "ON"
- WAVEFORM MONITOR button/MSU-350 → "R"

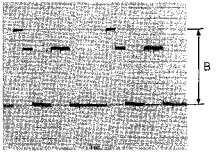
Test point: WF OUT connector/rear panel

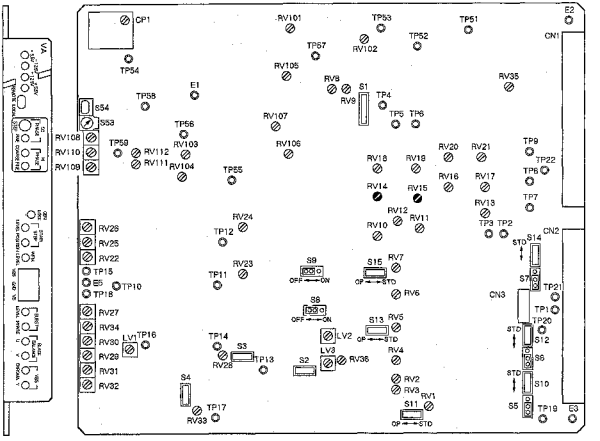
Adjustment Procedures

1. Adjusting point: ✪ RV14/VA-87P board
   Specification: A=0 $^{+10}_{-0}$ mV



2. Adjusting point: ✪ RV15/VA-87P board
   Specification: B=700 ± 10 mV





(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

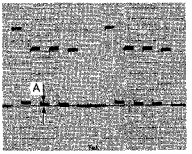
1-29. B LEVEL ADJUSTMENT

Equipment: Waveform monitor
To be extended: VA-87P board
Preparation
- BARS button/MSU-350→"ON"
- WAVEFORM MONITOR button/MSU-350→"B"

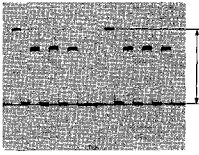
Test point: WF OUT connector/rear panel

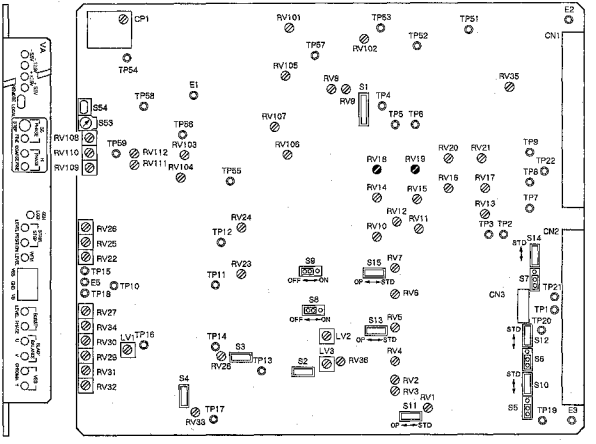
Adjustment Procedures

1. Adjusting point: ✪RV18/VA-87P board
   Specification: A=0 $^{+10}_{-0}$ mV



2. Adjusting point: ✪RV19/VA-87P board
   Specification: B=700 ± 10 mV



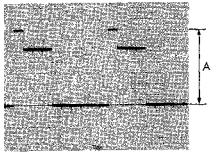


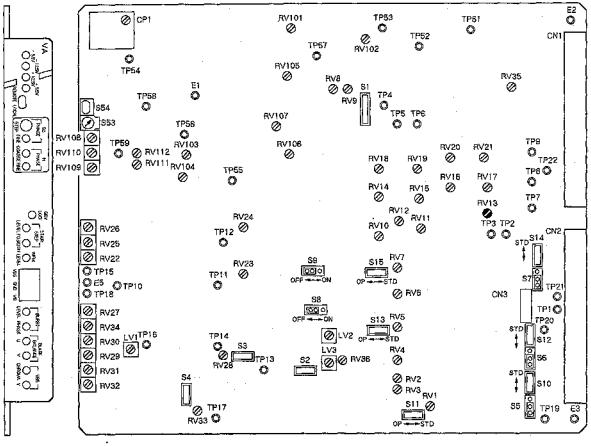
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-30. G OUT LEVEL ADJUSTMENT

Equipment: Waveform monitor
To be extended: VA-87P board
Preparation
- BARS button/MSU-350 → "ON"

Test point: G OUT connector/rear panel
Adjusting point: ◐ RV13/VA-87P board
Specification: A=700 ± 10 mV

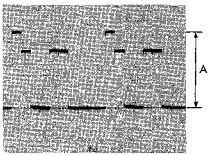


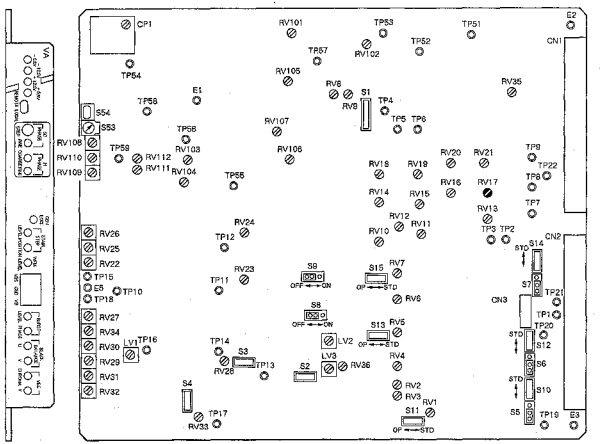


(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-31. R OUT LEVEL ADJUSTMENT

Equipment: Waveform monitor
To be extended: VA-87P board
Preparation
• BARS button/MSU-350→"ON"
Test point: R OUT connector/rear panel
Adjusting point: ◐RV17/VA-87P board
Specification: A=700 ± 10 mV



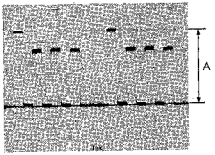


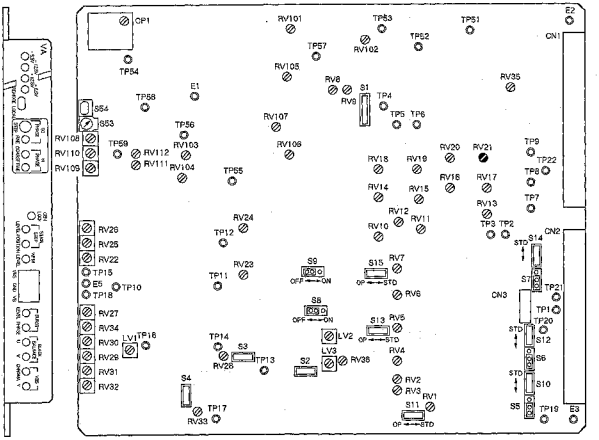
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-32. B OUT LEVEL ADJUSTMENT

Equipment: Waveform monitor
To be extended: VA-87P board
Preparation
- BARS button/MSU-350→"ON"

Test point: B OUT connector/rear panel
Adjusting point: ◐RV21/VA-87P board
Specification: A=700 ± 10 mV





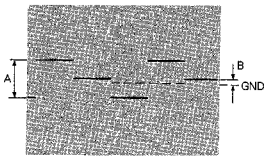
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

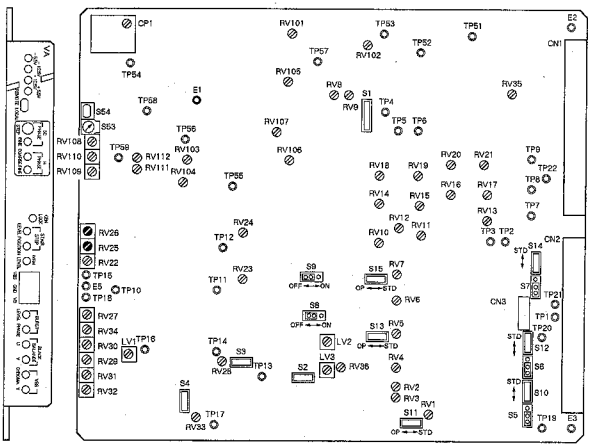
1-33. STAIR CASE ADJUSTMENT

Note: This adjustment is for temporary adjustment when repairing the STAIR CASE block. In the system setup, the readjustment is required to match the characteristic of waveform monitor.

Equipment: Oscilloscope
To be extended: VA-87P board
Preparation
- BARS button/MSU-350→"ON"
- WAVEFORM MONITOR button/MSU-350→"SEQ"

Test point: CN1-B21/(GND;E1)/Extension board
Adjusting point: ◐ RV25, ◐ RV26/VA-87P board
Specification: A=10 ± 0.5 Vp-p (◐ RV26)
B=0 ± 0.5 Vdc (◐ RV25)





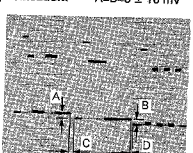
(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

1-34. R/G/B SEQ ADJUSTMENT

Equipment: Waveform monitor
To be extended: VA-87P board
Preparation

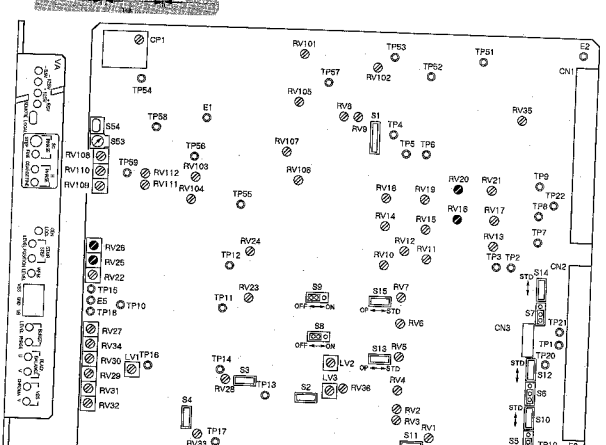
- Connect between WF MODE connector of CCU-370P rear panel and the remote control connector of waveform monitor with 4 pin cord.
  (Regarding the 4 pin cord, refer to Section 2.)
- BARS button/MSU-350 → "ON"
- WAVEFORM MONITOR button/MSU-350 → "SEQ"
- RESTORE of waveform monitor → "OFF"

Test point: WF OUT connector/rear panel
Adjusting point: ◐ RV16(R-ch), ◐ RV20(B-ch)
/VA-87P board
Specification: A=B=0 ± 10 mV



Adjustment procedures

1. Adjust ◐ RV25/VA-87P board so that R/G/B waveform is positioned in the center of waveform monitor screen, and adjust ◐ RV26 that the space C and D are neary equal.
   Note: Due to the characteristic of waveform monitor, R/G/B waveform may be not positiond correctly in the center of waveform monitor screen. In such a case, turn ◐ RV25 fully counterclockwise ○.
2. Adjust ◐ RV16 (R-ch) and ◐ RV20 (B-ch)/VA-87P board so that "A" and "B" are 0 ± 10 mV.
   Note: After the adjustment, perform the STAIR CASE ADJUSTMENT, if necessary.



(PANEL SIDE) VA-87P BOARD (COMPONENT SIDE)

STEP 2. CABLE COMPENSATION SYSTEM ADJUSTMENT (DM-79 BOARD)

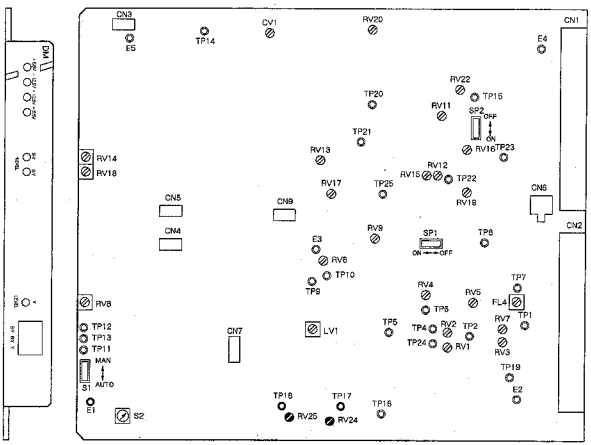
2-1. REG +9V/+5V ADJUSTMENT (DM-79 BOARD)

Note: This adjustment influences operation of DM-79 board, therefore, when this adjustment is carried out, all of the Cable Compensation System adjustments must be performed.
Perform the adjustment when measured voltage is more than ± 1% with respect to the specified voltage.

Equipment: Digital voltmeter
To be extended: DM-79 board

Adjustment Procedures

1. Test point: TP18 (GND; E1)/DM-79 board
   Adjusting point: ◐ RV25/DM-79 board
   Specification: +9.0 ± 0.02 Vdc
2. Test point: TP17 (GND; E1)/DM-79 board
   Adjusting point: ◐ RV24/DM-79 board
   Specification: +5.0 ± 0.02 Vdc

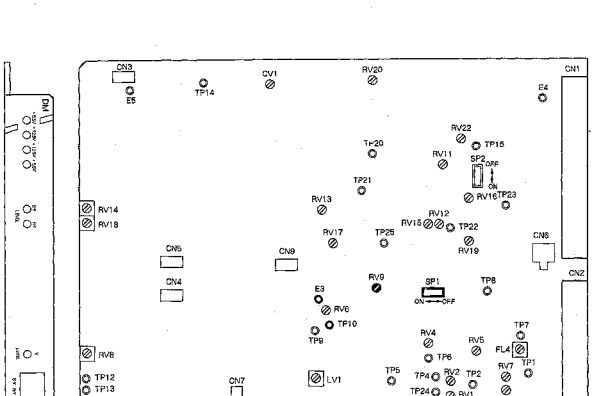


(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

2-2. Y 1st AGC ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Preparation
- S1 (AUTO/MANU)/DM-79 board → "AUTO"
- SP1 (YD 2nd AGC)/DM-79 board → "OFF"

Test point: TP11 (GND; E1)/DM-79 board
Adjusting point: ◐ RV9/DM-79 board
Specification: A=700 ± 20 mV



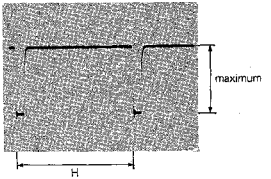
(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

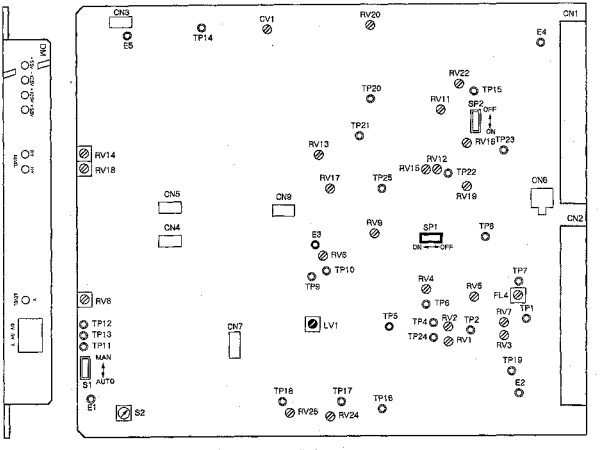
Note: After the adjustment, set SP1 (YD 2nd AGC) on the DM-79 board to "ON".

2-3. SYNC SEP ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Preparation
- CLOSE button/MSU-350 board → "ON"
- SP1 (YD 2nd AGC)/DM-79 board → "OFF"

Test point: TP5 (GND; E3)/DM-79 board
Adjusting point: ◐ LV1/DM-79 board
Specification: A=maximum level



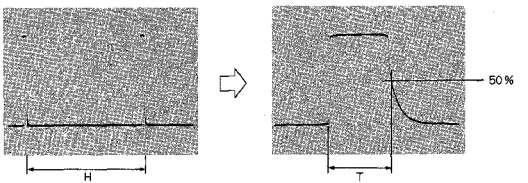


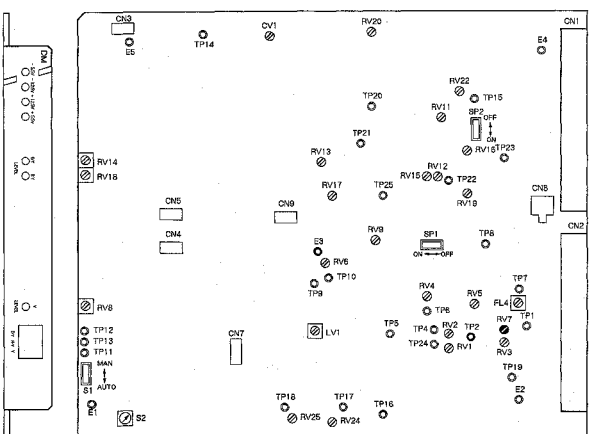
(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

Note: After the adjustment, set SP1 (YD 2nd AGC) on the DM-79 board to "ON".

2-4. BLACK PULSE WIDTH ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Test point: TP2 (GND; E3)/DM-79 board
Adjusting point: ● RV7/DM-79 board
Specification: T=1.7 ± 0.1 μs

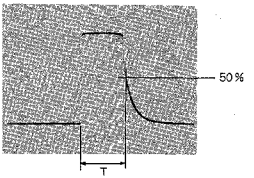


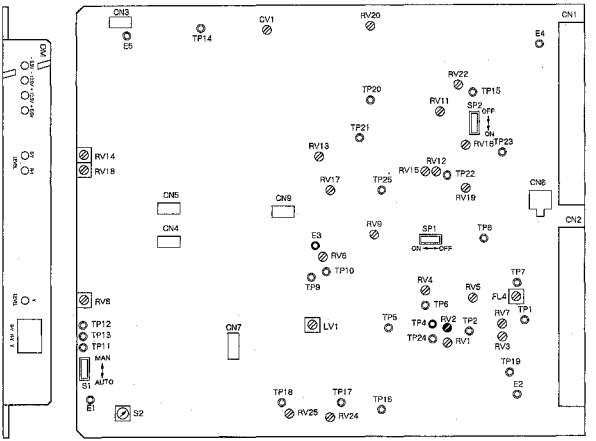


(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

2-5. SYNC SAMPLE HOLD PULSE WIDTH ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Test point: TP4 (GND; E3)/DM-79 board
Adjusting point: ◐ RV2/DM-79 board
Specification: T=1.2 ± 0.1 µs



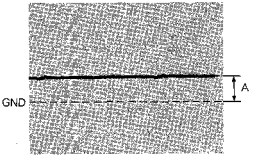


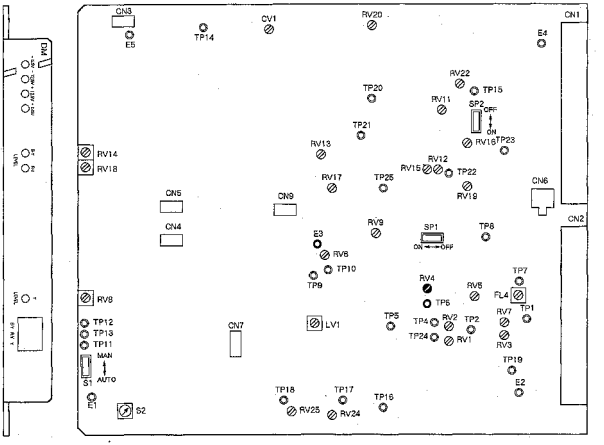
(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

2-6. 18 MHz VCO DC SET ADJUSTMENT

Note: Make sure that 36 MHz frequency on the MD-67 board/BVP-370P should be correct.

Equipment: Oscilloscope
To be extended: DM-79 board
Test point: TP6 (GND; E3)/DM-79 board
Adjusting point: ◐RV4/DM-79 board
Specification: A=0 ± 30 mVdc

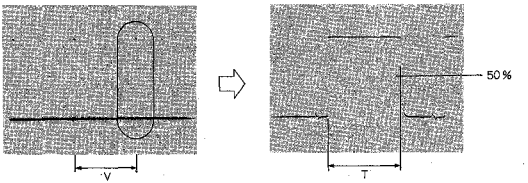


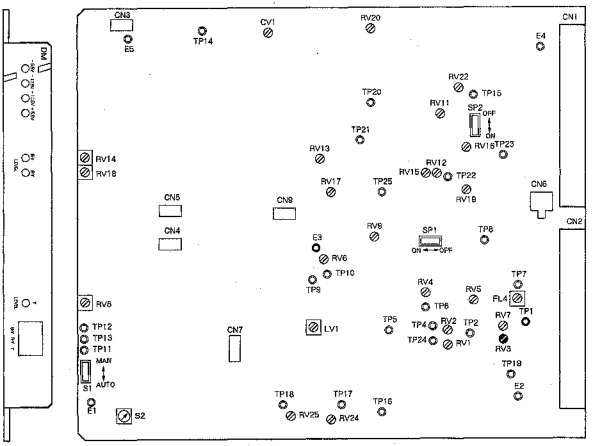


(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

2-7. SAMPLE PULSE WIDTH ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Test point: TP1 (GND; E3)/DM-79 board
Adjusting point: ◐ RV3/DM-79 board
Specification: T=40.0 ± 2.0 µs



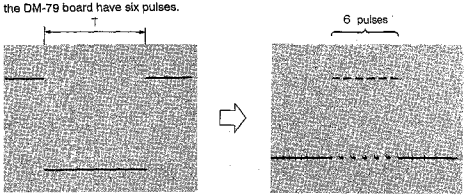


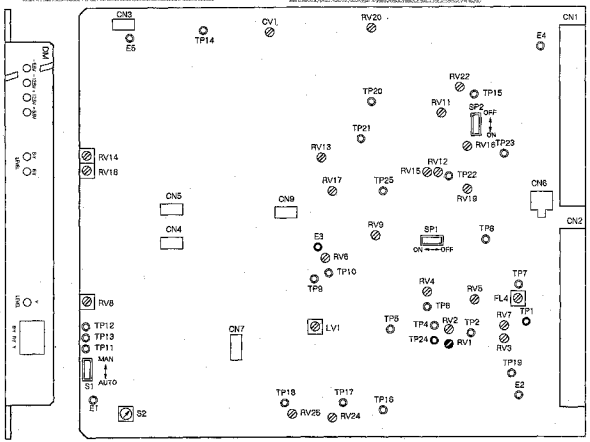
2-8. SAMPLE PULSE V GATE WIDTH ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Test point: Serial No. 40001 – 40020;
IC4-pin 12 (GND;E3)/DM-79 board
Serial No. 40101 and higher;
TP24 (GND;E3)/DM-79 board
Adjusting point: ● RV1/DM-79 board

Adjustment Procedures

1. Adjust ● RV1/DM-79 board so that the V gate width "T" at IC4-pin 12 (or TP24) is 550 ± 5 µs.
2. Confirm that the sample pulses of TP1 (GND; E3) on the DM-79 board have six pulses.

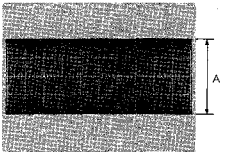


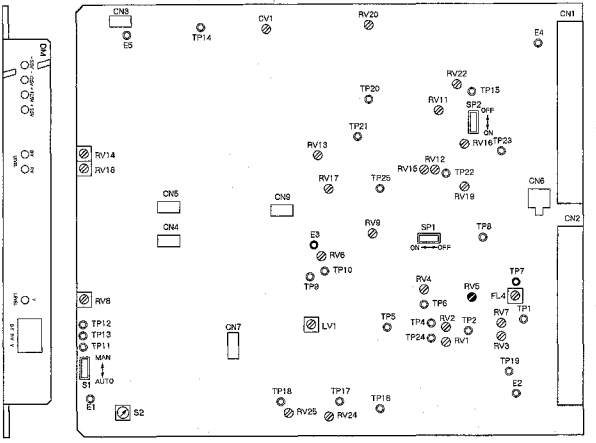


(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

2-9. 18 MHz CARRIER LEVEL ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Test point: TP7 (GND; E3)/DM-79 board
Adjusting point: ● RV5/DM-79 board
Specification: A=800 ± 20 mVp-p





(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

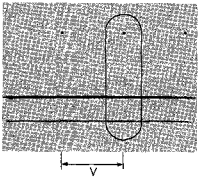
2-10. YD DEMOD ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Preparation
- CLOSE button/MSU-350 → "ON"
- SP1 (YD 2nd AGC)/DM-79 board → "OFF"

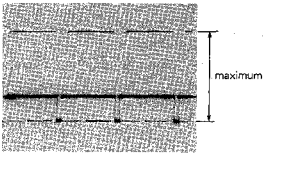
Test point: TP11 (GND; E1)/DM-79 board

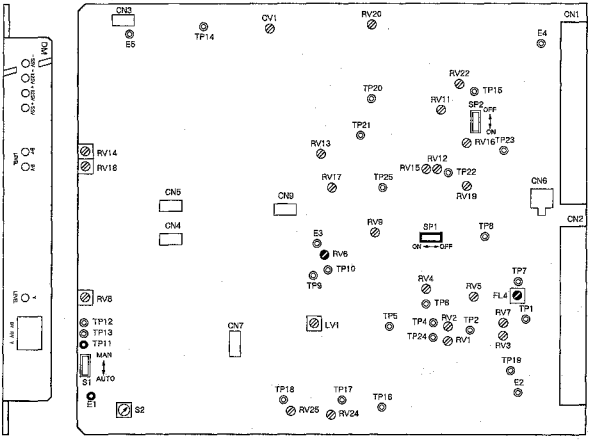
Adjustment Procedures

1. Adjust ⊘ RV6/DM-79 board so that the amplitude of V sample pulse is maximum.



2. Adjust ⊘ FL4/DM-79 board so that the amplitude of waveform is maximum.
(Use a plastic core driver so as not to affect the frequency.)



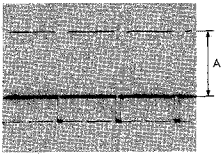


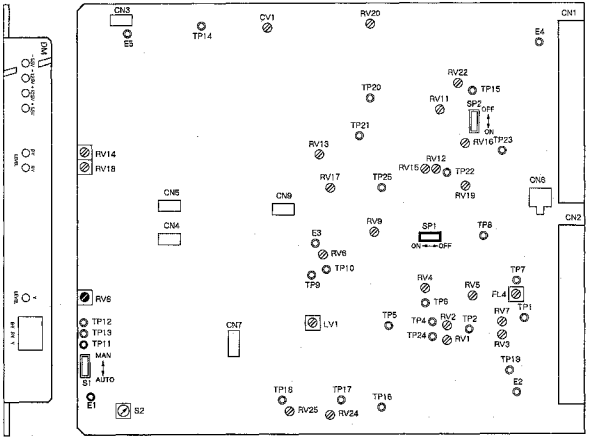
(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

Note: After the adjustment, set as follows.
SP1 (YD 2nd AGC)/DM-79 board → "ON"

2-11. YD OUTPUT LEVEL ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Preparation
• SP1 (YD 2nd AGC)/DM-79 board → "ON"
Test point: TP11 (GND; E1)/DM-79 board
Adjusting point: ◐ RV8/DM-79 board
Specification: A=700 ± 20 mVp-p



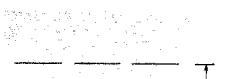


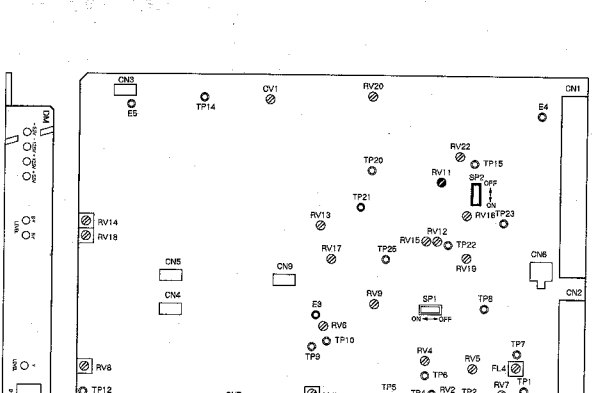
(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

2-12. CD 1st AGC ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Preparation
- S1 (AUTO/MANU)/DM-79 board → "AUTO"
- SP2 (CD 2nd AGC)/DM-79 board → "OFF"

Test point: TP12 (GND; E1)/DM-79 board
Adjusting point: RV11/DM-79 board
Specification: A=350 ± 20 mV



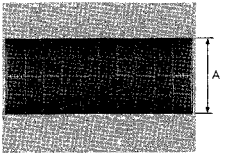


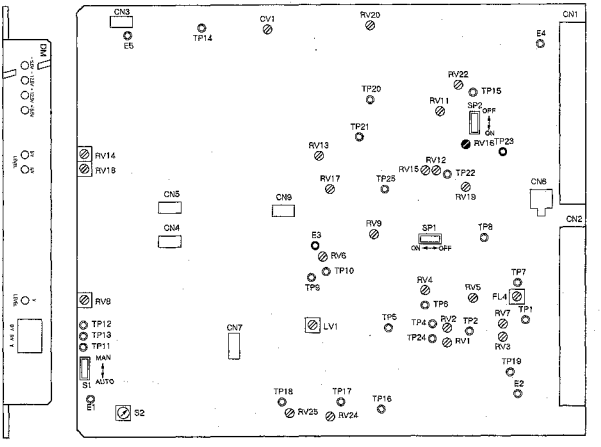
(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

Note: After the adjustment, set as follows.
SP2 (CD 2nd AGC)/DM-79 board → "ON"

2-13. 36 MHz CARRIER LEVEL ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Test point: TP23 (GND; E3)/DM-79 board
Adjusting point: ◐ RV16/DM-79 board
Specification: A=400 ± 20 mVp-p



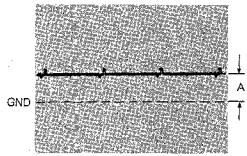


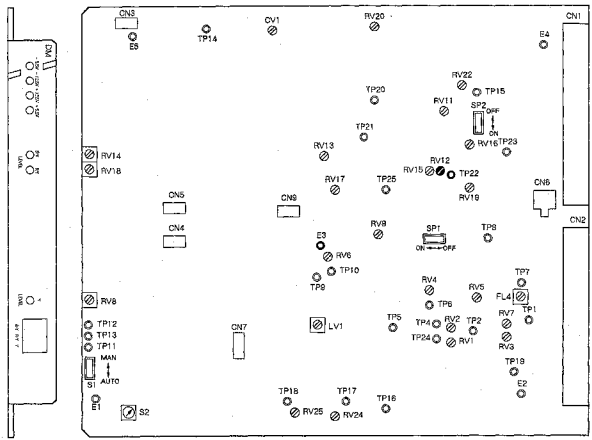
(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

2-14. CD PLL SET ADJUSTMENT

Note: Make sure that 36 MHz frequency on the MD-67 board/BVP-370P is correct.

Equipment: Oscilloscope
To be extended: DM-79 board
Test point: TP22 (GND; E3)/DM-79 board
Adjusting point: ◐ RV12/DM-79 board
Specification: A=0 ± 30 mVdc

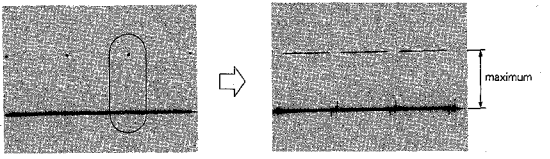


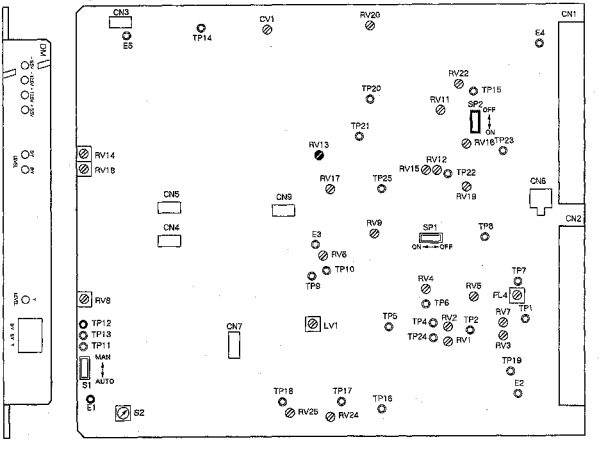


(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

2-15. B-Y DEMOD CARRIER BALANCE ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Preparation
• SP2 (CD 2nd AGC)/DM-79 board → "OFF"
Test point: TP12 (GND; E1)/DM-79 board
Specification: Adjust ⊘ RV13/DM-79 board so that the amplitude of waveform is maximum.



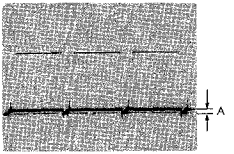


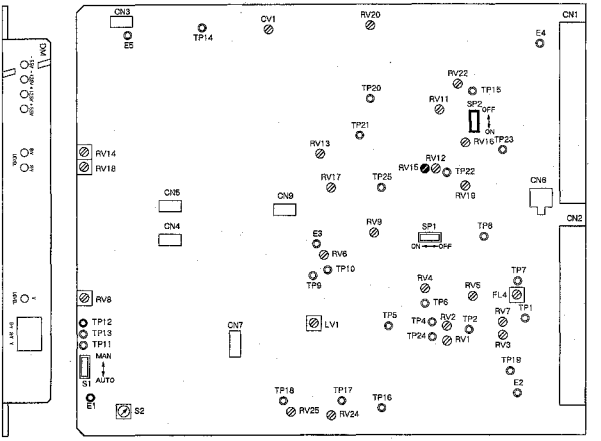
(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

Note: After the adjustment, set as follows.
SP2 (CD 2nd AGC)/DM-79 board → "ON"

2-16. B-Y CROSSTALK ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Preparation
• SP2 (CD 2nd AGC)/DM-79 board → "OFF"
Test point: TP12 (GND; E1)/DM-79 board
Adjusting point: ⊘RV15/DM-79 board
Specification: A=0 ± 3 mV

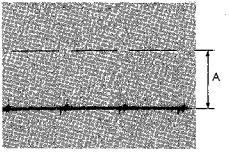


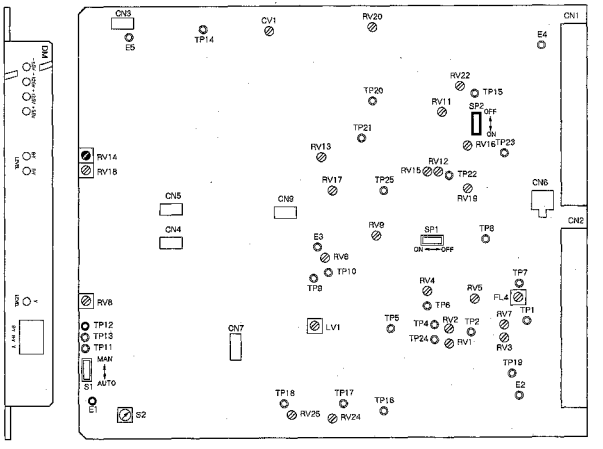


Note: After the adjustment, set as follows.
SP2 (CD 2nd AGC)/DM-79 board → **"ON"**

2-17. B-Y OUT LEVEL ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Preparation
• SP2 (CD 2nd AGC)/DM-79 board → "ON"
Test point: TP12 (GND; E1)/DM-79 board
Adjusting point: ◐ RV14/DM-79 board
Specification: A=350 ± 20 mVp-p

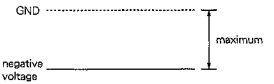


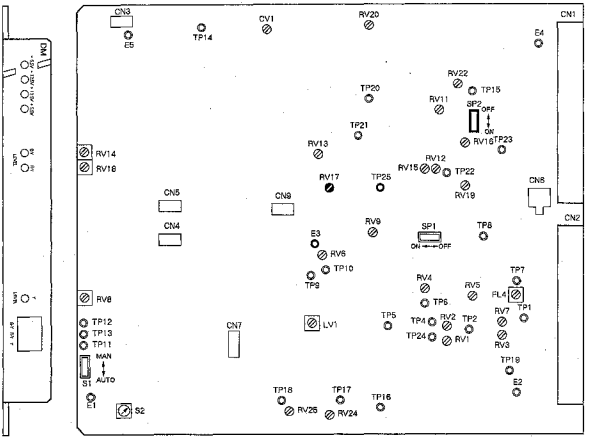


(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

2-18. R-Y DEMOD CARRIER BALANCE ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Preparation
• SP2 (CD 2nd AGC)/DM-79 board → "OFF"
Test point: Serial No. 40001-40325;
IC37-pin 1 (GND;E3)/DM-79 board
Serial No. 40401 and higher;
TP25 (GND:E3)/DM-79 board
Adjusting point: ⊘ RV17/DM-79 board
Specification: Adjust ⊘ RV17/DM-79 board so that the negative DC level is maximum.

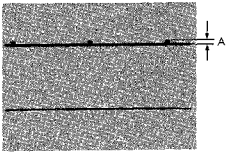


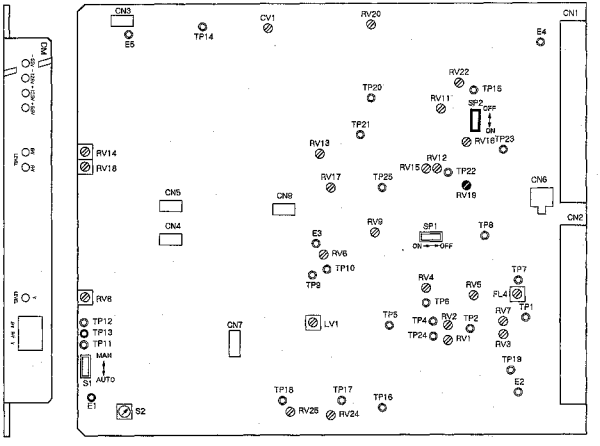


Note: After the adjustment, set as follows.
SP2 (CD 2nd AGC)/DM-79 board → "ON"

2-19. R-Y CROSSTALK ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Preparation
• SP2 (CD 2nd AGC)/DM-79 board → "OFF"
Test point: TP13 (GND; E1)/DM-79 board
Adjusting point: ◐RV19/DM-79 board
Specification: A=0 ± 3 mV





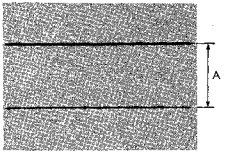
(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

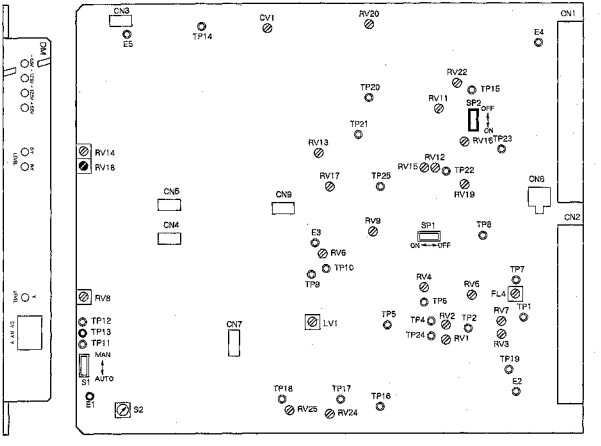
Note: After the adjustment, set as follows.
SP2 (CD 2nd AGC)/DM-79 board → "ON"

2-20. R-Y OUT LEVEL ADJUSTMENT

Equipment: Oscilloscope
To be extended: DM-79 board
Preparation
- SP2 (CD 2nd AGC)/DM-79 board → "ON"

Test point: TP13 (GND; E1)/DM-79 board
Adjusting point: ◐ RV18/DM-79 board
Specification: A=350 ± 20 mV





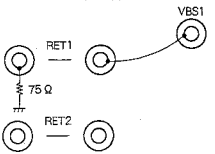
(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

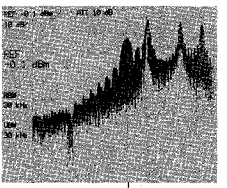
Note: After the adjustment, set as follows
SP2 (CD 2nd AGC)DM-79 board → "ON"

2-21. RETURN VIDEO CARRIER FREQUENCY ADJUSTMENT

Equipment: Spectrum analyzer
To be extended: DM-79 board
Preparation

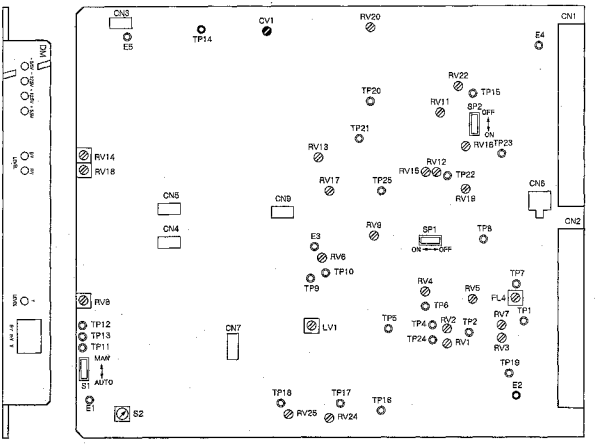
- TEST 2 button/MSU-350 → "ON"
- Make a connection of the CCU rear panel as shown.





Test point: TP14 (GND; E2)/DM-79 board
Adjusting point: ◐ CV1/DM-79 board
Specification: 68.5 ± 0.005 MHz

CENT FREQ: 68.5 MHz
FREQ. SPAN: 5.0 MHz

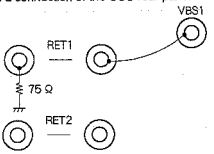


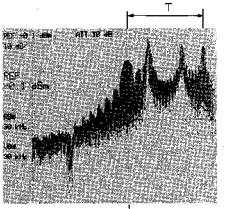
(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

2-22. RETURN VIDEO DEVIATION ADJUSTMENT

Equipment: Spectrum analyzer
To be extended: DM-79 board
Preparation

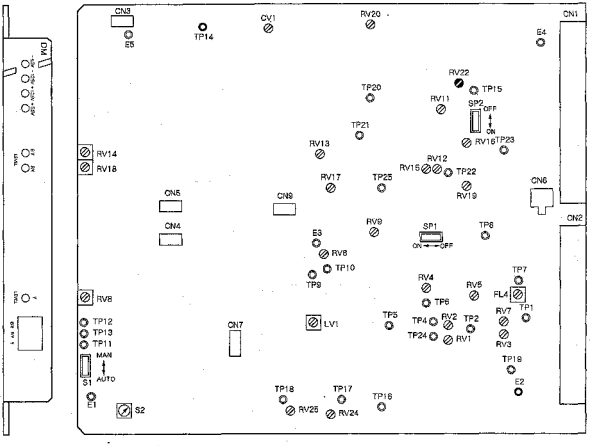
- TEST 2 button/MSU-350 → "ON"
- Make a connection of the CCU rear panel as shown.





Test point: TP14 (GND; E2)/DM-79 board
Adjusting point: ◐ RV22 (RET VIDEO DEV) /DM-79 board
Specification: T=2.0 ± 0.05 MHz

CENT FREQ: 68.5 MHz
FREQ. SPAN: 5.0 MHz



(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

STEP3. TRIAX INTERFACE SYSTEM ADJUSTMENT (AT-55B BOARD)

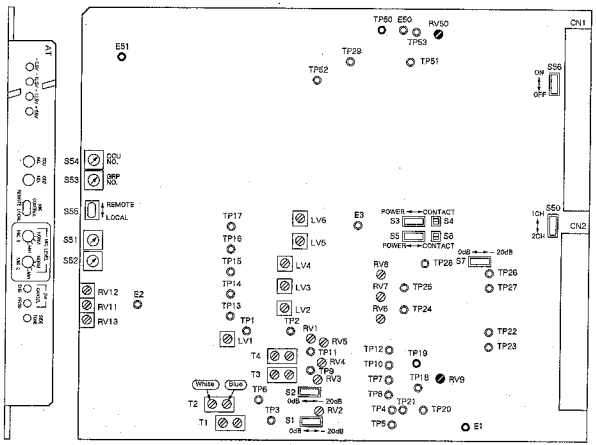
3-1. REG +5V ADJUSTMENT (AT-55B board)

Note: This adjustment influences operation of AT-55B board, therefore, when this adjustment is carried out, all of the TRIAX Interface System adjustments must be performed.
Perform the adjustment when measured voltage is more than ± 1% with respect to the specified voltage.

Equipment: Digital voltmeter
To be extended: AT-55B board

Adjustment Procedures

1. Test point: TP19 (GND; E1)/AT-55B board
   Adjusting point: RV9/AT-55B board
   Specification: +5.0 ± 0.02 Vdc
2. Test point: TP50 (GND; E51)/AT-55B board
   Adjusting point: RV50/AT-55B board
   Specification: +5.0 ± 0.02 Vdc



(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

3-2. FREQUENCY SETTING ADJUSTMENT

Note: Check to see that the signal are not input to the INCOM connector and PGM connector of the CCU-370P rear panel or the intercom double jack on the front panel.

Equipment: Frequency counter, DC power supply, Digital voltmeter

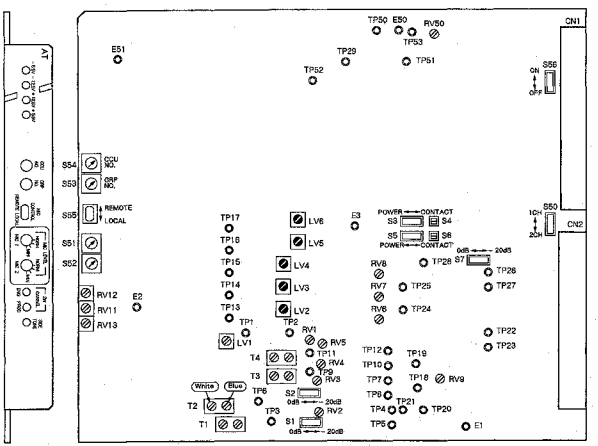
To be extended: AT-55B board

Adjustment Procedures

AT-55B board (GND;E1)

	Test point	Adjusting point	Specification [MHz]
PGM	TP15	LV4	4.3 ± 0.002
INCOM 1	TP13	LV2	3.6 ± 0.002
INCOM 2	TP14	LV3	3.9 ± 0.002
H CONT	TP16	LV5	2.5 ± 0.002 *
CCU DATA	TP17	LV6	2.896 ± 0.002

* When carrying out H CONT Frequency adjustment, supply the DC voltage of +2.5 ± 0.05V to the CN2-TP A13/AT-55B board.

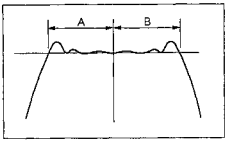


(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

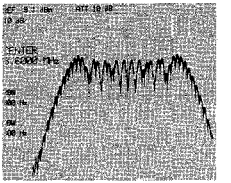
3-3. INCOM 1 DEVIATION ADJUSTMENT

Equipment: Audio generator, Spectrum analyzer, oscilloscope
To be extended: AT-55B board
Preparation
- MIC (PROD/OFF/ENG) switch/BVP-370P (rear panel) → "ENG"

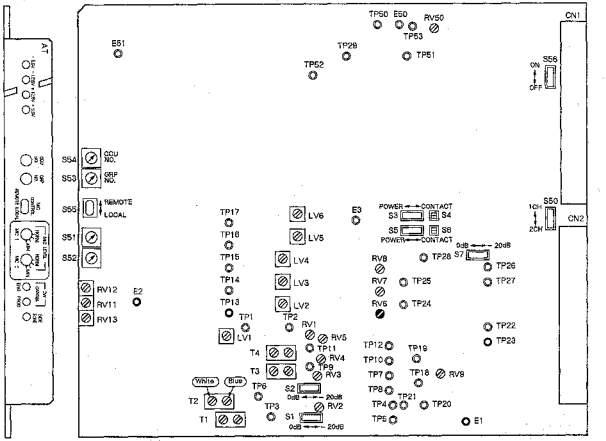
Test point: TP13 (GND; E2)/AT-55B board
Adjusting point: ◐ RV6/AT-55B board
Specification: A=B=6.0 ± 0.4 kHz



Adjustment Procedures
1. (For 4W intercom system)
   Input the 400 Hz sine-wave to CN2-TPB22 (X), TPA22 (Y) and TPB21 (GND) /extension board. ...Fig-2 (Refer to 4-1-3. audio connection)
   (For 2W intercom system)
   Input the 400 Hz sine-wave to CN2-TPA24 (X), TPA23 (GND) /extension board. ...Fig-1 (Refer to 4-1-3. audio connection)
2. Adjust the output of audio generator so that the level at TP23 (GND; E1) on the AT-55B board is 200 mVp-p.
3. Connect the probe of the spectrum analyzer to TP13 (GND; E2) on the AT-55B board. Adjust ◐ RV6 (INCOM 1 DEV) on the AT-55B board so that the A and B are 6.0 ± 0.4 kHz.



CENT FREQ:3.6 MHz
FREQ SPAN:20 kHz

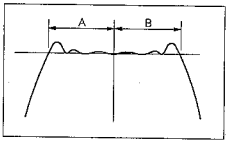


(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

3-4. INCOM 2 DEVIATION ADJUSTMENT

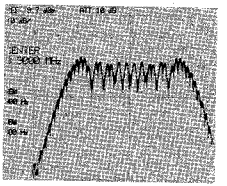
Equipment: Audio generator, Spectrum analyzer, Oscilloscope
To be extended: AT-55B board
Preparation
- MIC (PROD/OFF/ENG) switch/BVP-370P (rear panel) → "PROD"

Test point: TP14 (GND; E2)/AT-55B board
Adjusting point: ◐RV7/AT-55B board
Specification: A=B=6.0 ± 0.4 kHz

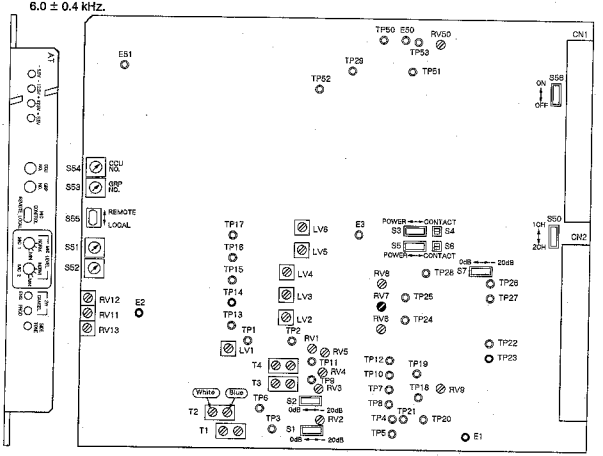


Adjustment Procedures

1. (For 4W intercom system)
   Input the 400 Hz sine-wave to CN2-TPB19 (X), TPA19 (Y) and TPB18 (GND)/extension board. ...Fig-2 (Refer to 4-1-3. audio connection)
   (For 2W intercom system)
   Input the 400 Hz sine-wave to CN2-TPA21 (X), TPA20 (GND) /extension board. ...Fig-1
   (Refer to 4-1-3. audio connection)
2. Adjust the output of audio generator so that the level at TP23 (GND; E1) on the AT-55B board is 200 mVp-p.
3. Connect the probe of the spectrum analyzer to TP14 (GND; E2) on the AT-55B board. Adjust ◐RV7 (INCOM 2 DEV) on the AT-55B board so that the A and B are 6.0 ± 0.4 kHz.



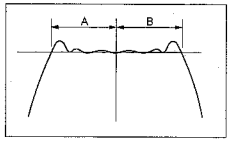
CENT FREQ:3.9 MHz
FREQ SPAN:20 kHz



(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

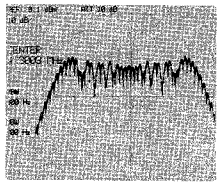
3-5. PGM DEVIATION ADJUSTMENT

Equipment: Audio generator, Spectrum analyzer, Oscilloscope
To be extended: AT-55B board
Test point: TP15 (GND; E2)/AT-55B board
Adjusting point: ◐ RV8/AT-55B board
Specification: A=B=7.0 ± 0.4 kHz

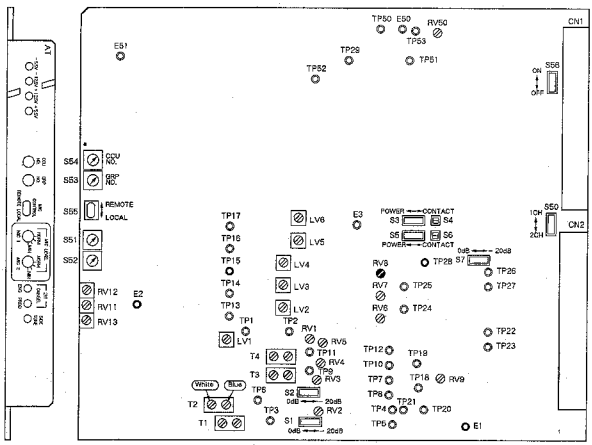


Adjustment Procedures

1. Input the 400 Hz sine-wave to CN2-TPB25 (X), TPA25 (Y) and TPB24 (GND) /extension board from the audio generator. ...Fig-2 (Refer to 4-1-3. audio connection).
2. Adjust the output of audio generator so that the level at TP28 (GND; E1) on the AT-55B board is 200 mVp-p.
3. Connect the probe of the spectrum analyzer to TP15 (GND; E2) on the AT-55B board. Adjust ◐ RV8 (PGM DEV) on the AT-55B board so that the A and B are 7.0 ± 0.4 kHz.



CENT FREQ:4.3 MHz
FREQ SPAN:20 kHz



(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

3-6. INCOM 1 DEMOD ADJUSTMENT

Note: Perform the adjustment only when replacing a part.

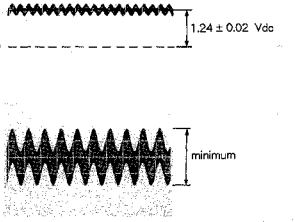
Equipment: Oscilloscope, Audio generator
To be extended: AT-55B board
Preparation

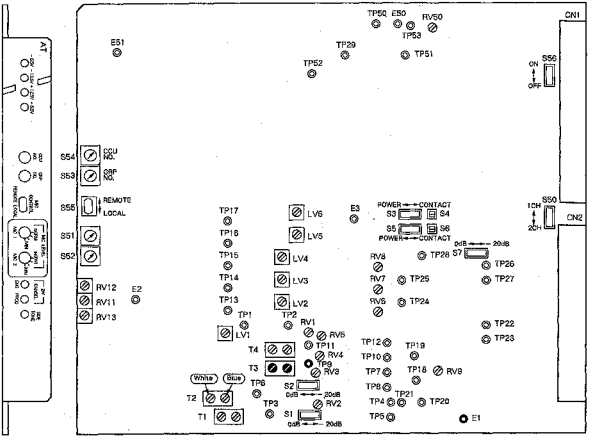
- Extend the AU-129P board (BVP-370P) with extension board EX-228.
- MIC (PROD/OFF/ENG) switch/BVP-370P (rear panel) → "ENG"

Test point: TP9 (GND; E1)/AT-55B board

Adjustment Procedures

1. Input the 1 kHz/220 mVp-p sine-wave to TPA35 (X) and TPA37 (GND) /extension board (BVP-370P). ...Fig-1 (Refer to 4-1-3. audio connection)
2. Adjust a white core of ⊘ T3/AT-55B board slowly so that the DC level at TP9 is 1.24 Vdc.
3. Set the input range of oscilloscope to AC mode, and adjust a blue core of ⊘ T3/AT-55B board so that the sine-wave is minimum.
4. Repeat procedure 2.





(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

3-7. INCOM 1 LEVEL ADJUSTMENT

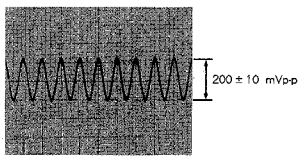
Equipment: Oscilloscope, Audio generator
To be extended: AT-55B board
Preparation

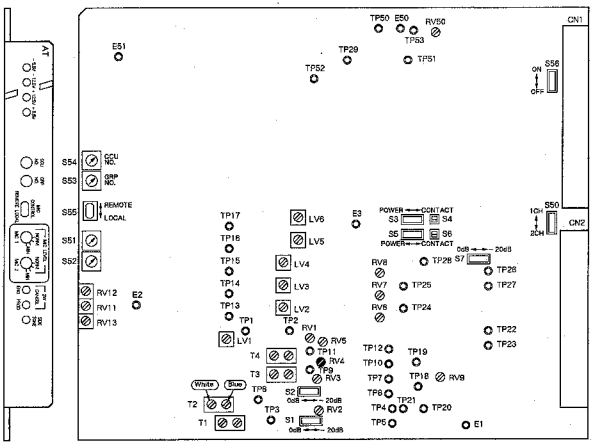
- Extend the AU-129P board/BVP-370P with extension board EX-228.
- MIC (PROD/OFF/ENG) switch/BVP-370P (rear panel) → "ENG"

Test point: TP10 (GND; E1)/AT-55B board
Adjusting point: ◐ RV4/AT-55B board

Adjustment Procedures

1. Input the 1 kHz/220 mVp-p sine-wave to TPA35 (X) and TPA37 (GND) /extension board (BVP-370P). ...Fig-1 (Refer to 4-1-3. audio connection)
2. Adjust ◐ RV4 (INCOM 1 LEV) on the AT-55B board so that the signal level at TP10 (GND; E1) on the AT-55B board is 200 ± 10 mVp-p.





(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

3-8. INCOM 2 DEMOD ADJUSTMENT

Note: Perform the adjustment only when replacing a part.

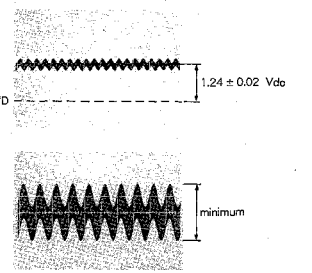
Equipment: Oscilloscope, Audio generator
To be extended: AT-55B board
Preparation

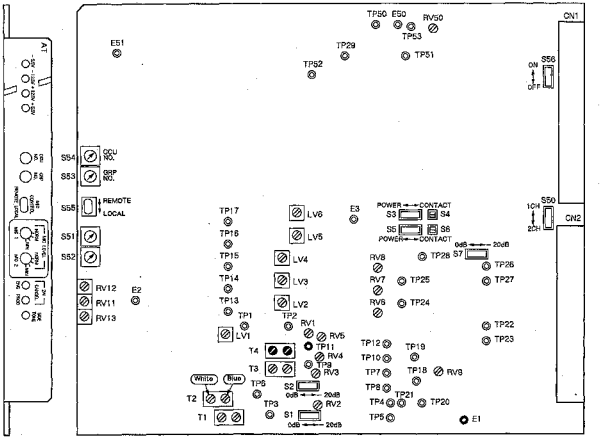
- Extend the AU-129P board/BVP-370P with extension board EX-228.
- MIC (PROD/OFF/ENG) switch/BVP-370P (rear panel) → "PROD"

Test point: TP11 (GND; E1) /AT-55B board

Adjustment Procedures

1. Input the 1 kHz/220 mVp-p sine-wave to TPA36 (X) and TPA37 (GND) /extension board (BVP-370P). ...Fig-1 (Refer to 4-1-3. audio connection)
2. Adjust a white core of ◐ T4/AT-55B board slowly so that the DC level at TP11 is 1.24 Vdc.
3. Set the input range of oscilloscope to AC mode, and adjust a blue core of ◐ T4/AT-55B board so that the sine-wave is minimum.
4. Repeat procedure 2.





(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

3-9. INCOM 2 LEVEL ADJUSTMENT

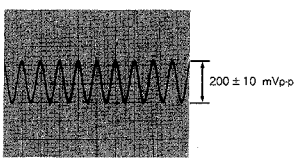
Equipment: Oscilloscope, Audio generator
To be extended: AT-55B board
Preparation

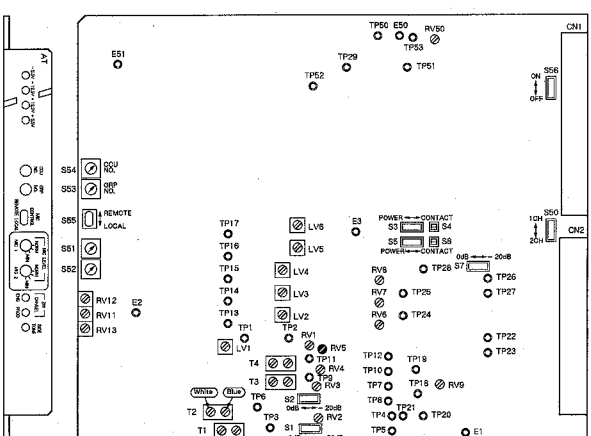
- Extend the AU-129P board/BVP-370P with extension board EX-228.
- MIC (PROD/OFF/ENG) switch/BVP-370P (rear panel) → "PROD"

Test point: TP12 (GND; E1)/AT-55B board
Adjusting point: ⊘ RV5/AT-55B board

Adjustment Procedures

1. Input the 1 kHz/220 mVp-p sine-wave to TPA36 (X) and TPA37 (GND) /extension board (BVP-370P). ...Fig-1 (Refer to 4-1-3. audio connection)
2. Adjust ⊘ RV5 (INCOM 2 LEV) on the AT-55B board so that the signal level at TP12 (GND; E1) on the AT-55B board is 200 ± 10 mVp-p.





(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

3-10. MIC 1 DEMOD ADJUSTMENT

Note: Perform the adjustment only when replacing a part.

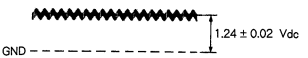
Equipment: Oscilloscope, Audio generator
To be extended: AT-55B board
Preparation

- Extend the AU-129P board (BVP-370P) with extension board EX-228.
- S51 switch/AT-55B board → "NORMAL"
- S55 (REMOTE/LOCAL) switch/AT-55B board→ "LOCAL"

Test point: TP3 (GND; E1)/AT-55B board

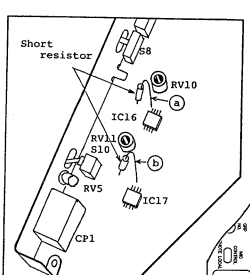
Adjustment procedures

1. Input the 1 kHz sine-wave to TPB15 (X), TPA16 (Y) and TPB17 (GND) /extension board (BVP-370P). ...Fig-2 (Refer to 4-1-3. audio connection)
2. Connect a probe of oscilloscope to portion ⓐ as shown below, and adjust the level control of audio generator so that the audio level at its point is 270 mVp-p.
3. Adjust a white core of ● T1/AT-55B board slowly so that the DC level at TP3 is 1.24 ± 0.02 Vdc.

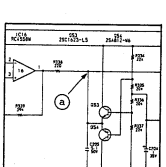


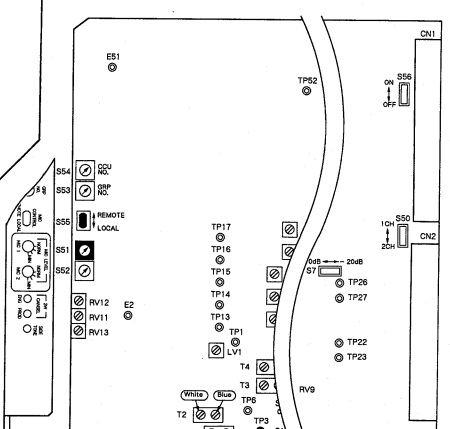
4. Set the input range of oscilloscope to AC mode, and adjust a blue core of ● T1/AT-55B board so that the sine-wave is minimum.

5. Repeat procedure 3.



AU-129P BOARD/BVP-370P





(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

3-11. MIC 1 LEVEL ADJUSTMENT

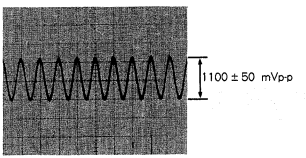
Equipment: Oscilloscope, Audio generator
To be extended: AT-55B board
Preparation

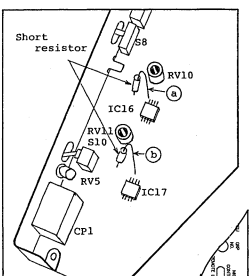
- Extend the AU-129P board/BVP-370P with extension board EX-228.
- S51 switch/AT-55B board → "NORMAL"
- S55 (REMOTE/LOCAL) switch/AT-55B board→ "LOCAL"

Test point: TP4 (GND; E1)/AT-55B board
Adjusting point: ⊘ RV2/AT-55B board

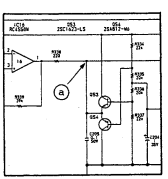
Adjustment Procedures

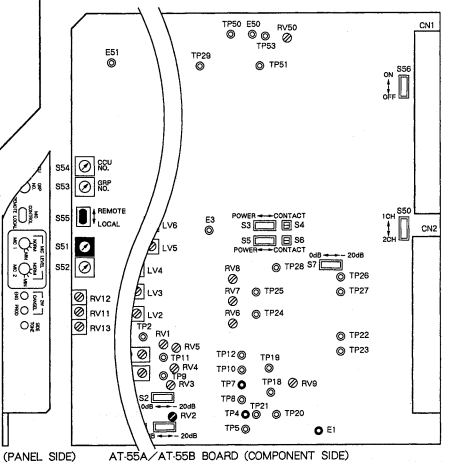
1. Input the 1 kHz sine-wave to TPB15 (X), TPA16 (Y) and TPB17 (GND) /extension board (BVP-370P).
2. Connect a probe of oscilloscope to portion ⓐ as shown below, and adjust the level control of audio generator so that the audio level at its point is 270 mVp-p.
3. Adjust ⊘ RV2 (MIC 1 LEV) on the AT-55B board so that the signal level at TP4 (GND; E1) on the AT-55B board is 1100 ± 50 mVp-p.





AU-129P BOARD/BVP-370P





(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

3-12. MIC 2 DEMOD ADJUSTMENT

Note: Perform the adjustment only when replacing a part.

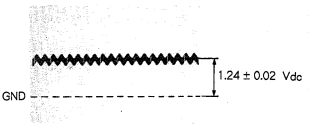
Equipment: Oscilloscope, Audio generator
To be extended: AT-55B board
Preparation

- Extend the AU-129P board (BVP-370P) with extension board EX-228.
- S52 switch/AT-55B board→"NORMAL"
- S55 (REMOTE/LOCAL) switch/AT-55B board→"LOCAL"

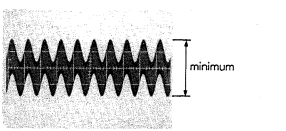
Test point: TP6 (GND; E1)/AT-55B board

Adjustment procedures

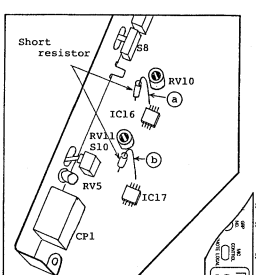
1. Input the 1 kHz sine-wave to TPB16 (X), TPA17 (Y) and TPB17 (GND)/extension board (BVP-370P). ...Fig-2 (Refer to 4-1-3. audio connection)
2. Connect a probe of oscilloscope to portion ⓑ as shown below, and adjust the level control of audio generator so that the audio level at its point is 270 mVp-p.
3. Adjust a white core of ◐ T2/AT-55B board slowly so that the DC level at TP6 is 1.24 ± 0.02 Vdc.



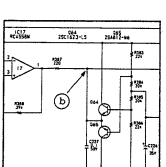
4. Set the input range of oscilloscope to AC mode, and adjust a blue core of ◐ T2/AT-55B board so that the sine-wave is minimum.

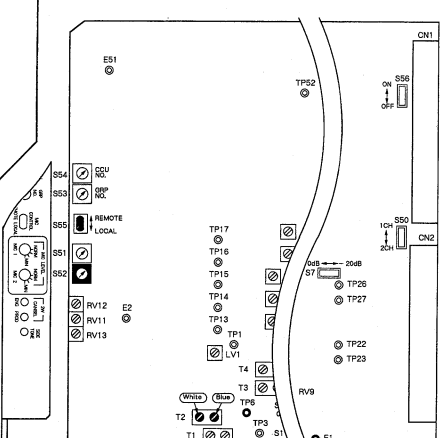


5. Repeat procedure 3.



AU-129P BOARD/BVP-370P





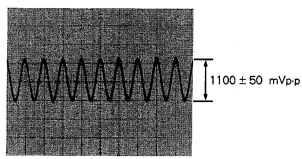
(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

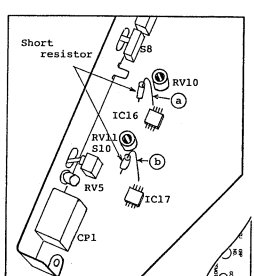
3-13. MIC 2 LEVEL ADJUSTMENT

Equipment: Oscilloscope, Audio generator
To be extended: AT-55B board
Preparation
- Extend the AU-129P board/BVP-370P with extension board EX-228.
- S52 switch/AT-55B board → "NORMAL"
- S55 (REMOTE/LOCAL) switch/AT-55B board→ "LOCAL"

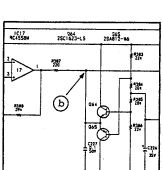
Test point: TP7 (GND; E1)/AT-55B board
Adjusting point: ⊘ RV3/AT-55B board

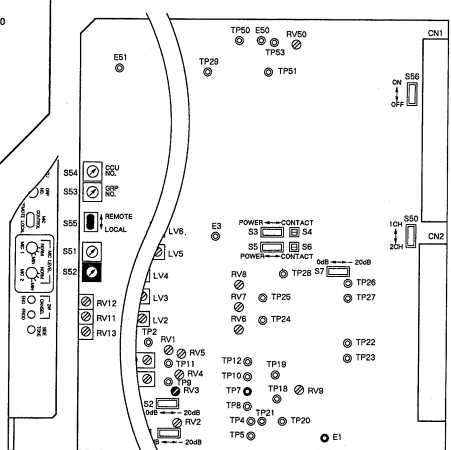
Adjustment Procedures
1. Input the 1 kHz sine-wave to TPB16 (X), TPA17 (Y) and TPB17 (GND) /extension board (BVP-370P).
2. Connect a probe of oscilloscope to portion ⓑ as shown below, and adjust the level control of audio generator so that the audio level at its point is 270 mVp-p.
3. Adjust ⊘ RV3 (MIC 2 LEV) on the AT-55B board so that the signal level at TP7 (GND; E1) on the AT-55B board is 1100 ± 50 mVp-p.





AU-129P BOARD/BVP-370P



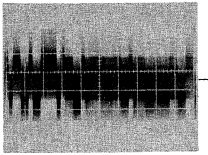


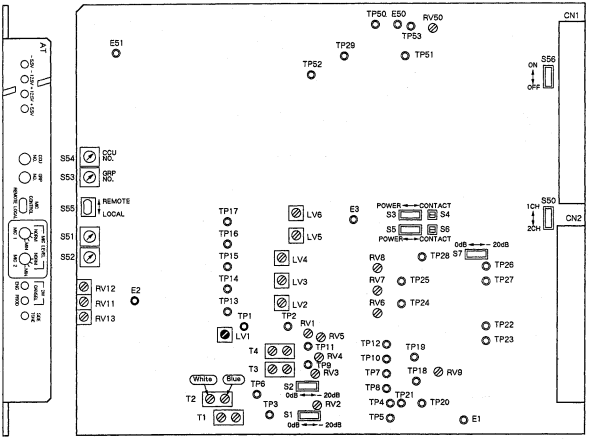
(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

3-14. CHU DATA DEMOD ADJUSTMENT

Note: The adjustment for BVP-370P must be completed.
Perform the adjustment only when replacing ◆ LV1/AT-55B board.

Equipment: Oscilloscope
To be extended: AT-55B board
Test point: TP1 (GND; E2)/AT-55B board
Adjusting point: ◆ LV1/AT-55B board
Specification: 0 ± 0.02 Vdc





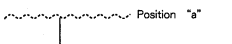
3-15. CHU TONE ADJUSTMENT

Equipment: Oscilloscope (DC mode)
To be extended: AT-55B board
Test point: TP2 (GND; E1)/AT-55B board

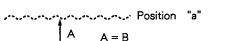
Adjustment procedures

1. ⊘ RV1/AT-55B board → Mechanical center
2. Turn ⊘ RV1/AT-55B board slowly clockwise ○ until the sine-wave waveform just appears.
   Measure the DC voltage "A". ...Fig. 1
3. Trun ⊘ RV1/AT-55B board slowly counterclockwise ○ until the sine-wave waveform just appears.
   Measure the DC voltage "B". ...Fig. 2
4. Adjust ⊘ RV1/AT-55B board so that the DC level is half way between position "a" and "b". ...Fig. 3

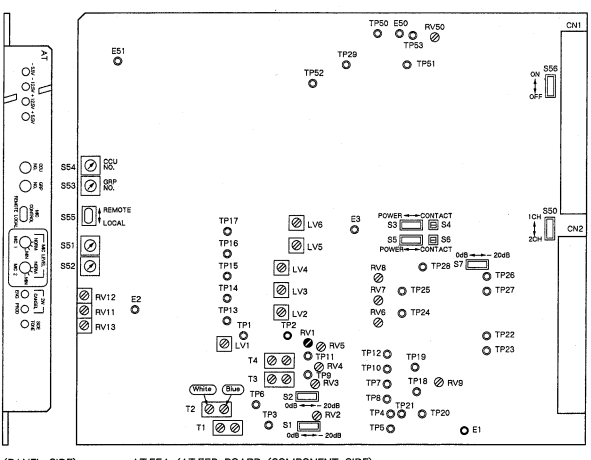
(Fig-1)



(Fig-2)



(Fig-3)



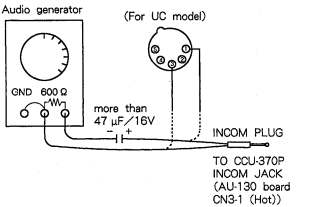
(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

STEP 4. INTERCOM SYSTEM ADJUSTMENT

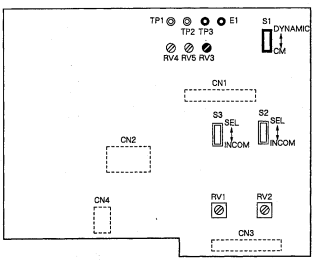
4-1. INCOM (T) LEVEL SET

Equipment: Oscilloscope, Audio generator
Preparation
- S1 (DYN/CM)/AU-130 board → "CM"
- MIC (ON/OFF) switch/CCU-370P (front panel) → "ON"

Test point: TP3 (GND; E1)/AU-130 board
Adjusting point: ⊘ RV3/AU-130 board



Adjustment Procedures
1. Connect audio generator and INCOM jack (CCU-370P) as follows.
2. Input the 1 kHz/220 mVp-p sine-wave.
   Measuring point: Audio generator output
3. ⊘ RV3 (INCOM T LEV)
   /AU-130 board → fully clockwise ↻
4. Confirm that the signal level at TP3 (GND; E1) on the AU-130 board is 300 ± 30 mVp-p.



AU-130 BOARD (COMPONENT SIDE)

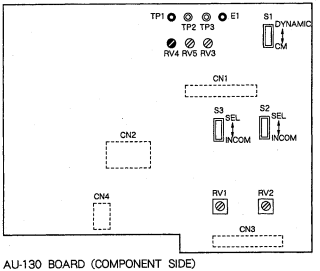
4-2. INCOM (R) LEVEL SET

Equipment: Oscilloscope, Audio generator
To be extended: AT-55B board
Preparation
- INCOM control
  /CCU-370P (front panel) → fully clockwise ↻
- INCOM (PROD/PRIV/ENG)switch
  /CCU-370P (front panel) → "PROD"

Test point: TP1 (GND; E1)/AU-130 board
Adjusting point: ⊘ RV4/AU-130 board

Adjustment Procedures
1. (For 4W intercom system)
   - Input 1 kHz sine-wave to CN2-TPB19 (X), TPA19 (Y) and TPB18 (GND) /extension board. ...Fig-2 (Refer to 4-1-3. audio connection)

   (For 2W intercom system)
   - Input 1 kHz sine-wave to CN2-TPA21 (X) and TPA20 (GND) /extension board. ...Fig-1 (Refer to 4-1-3 audio connection)
2. Adjust the level control of audio generator so that the audio level at TP23 (GND; E1) /AT-55B board is 200 mVp-p.
3. ⊘ RV4 (INCOM R LEV)
   /AU-130 board → fully clockwise ↻
4. Confirm that the signal level at TP1 (GND; E1) on the AU-130 board is 9.0 ± 0.5 Vp-p.



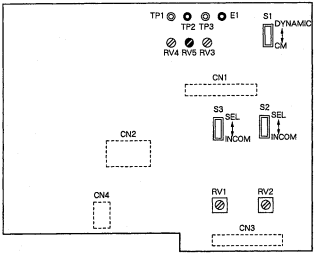
AU-130 BOARD (COMPONENT SIDE)

4-3. PGM (R) LEVEL SET

Equipment: Oscilloscope, Audio generator
To be extended: AT-55B board
Preparation
- PGM control/CCU-370P (front panel)→fully clockwise ↻

Test point: TP2 (GND; E1)/AU-130 board
Adjusting point: ⊘ RV5/AU-130 board

Adjustment Procedures
1. Input 1 kHz sine-wave to CN2-TPB25 (X), TPA25 (Y) and TPB24 (GND) /extension board. ...Fig-2 (Refer to 4-1-3. audio connection)
2. Adjust the level control of audio generator so that the audio level at CN2-TPB16 (X) and TPA26 (GND)/ extension board is 300 mVp-p.
3. ⊘ RV5 (PGM R LEV)/AU-130 board→fully clockwise ↻
4. Confirm that the signal level at TP2 (GND; E1) on the AU-130 board is 9.0 ± 0.5 Vp-p.



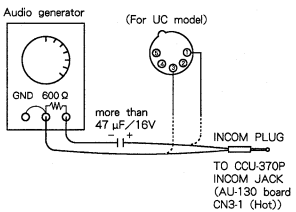
AU-130 BOARD (COMPONENT SIDE)

4-4. ENG CANCEL ADJUSTMENT (For 2W intercom system)

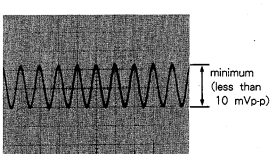
Note: • The following adjustment is necessary when the intercom is 2W system. Also, this information is only for repair purpose.
• Before this adjustment, perform "4-1. INCOM (T) LEVEL SET."

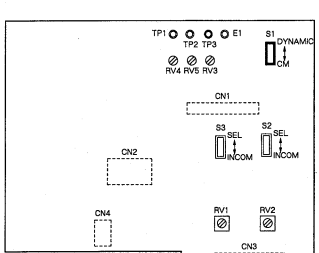
Equipment: Oscilloscope, Audio generator
To be extended: AT-55B board
Preparation
- S1 (DYN/CM) switch/AU-130 board (CCU-370P) → "CM"
- MIC (ON/OFF) switch/CCU-370P (front panel) → "ON"
- INCOM (PROD/PRIV/ENG) switch /CCU-370P (front panel) → "ENG"
- Connect 200 ohm resistor between CN2-TPA24 and TPA23. (on the extension board/AT-55B board)

Test point: TP27 (GND; E1)/AT-55B board

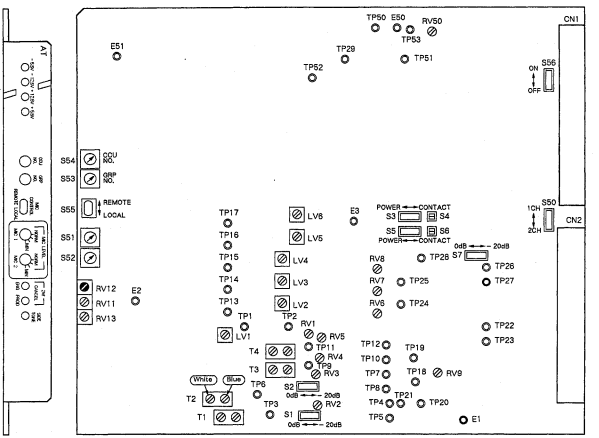


Adjustment Procedures
1. Connect audio generator and INCOM jack as shown.
2. Adjust the level control of audio generator so that the audio level of 1kHz sine-wave at TP3 (GND:E1)/AU-130 board is 300 mVp-p.
3. Adjust ⊘ RV12/AT-55B board so that the audio level is minimum.





AU-130 BOARD (COMPONENT SIDE)



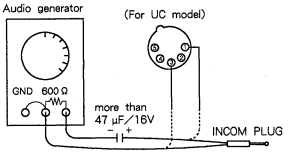
(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

4-5. PROD CANCEL ADJUSTMENT (For 2W intercom system)

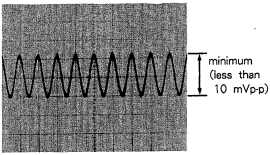
Note: • The following adjustment is necessary when the intercom is 2W system. Also, this information is only for repair purpose.
• Before this adjustment, perform "4-1. INCOM (T) LEVEL SET."

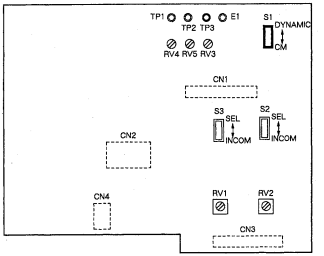
Equipment: Oscilloscope, Audio generator
To be extended: AT-55B board
Preparation
- S1 (DYN/CM) switch/AU-130 board (CCU-370P) → "CM"
- MIC (ON/OFF) switch/CCU-370P (front panel) → "ON"
- INCOM (PROD/PRIV/ENG) switch /CCU-370P (front panel) → "PROD"
- Connect 200 ohm resistor between CN2-TPA21 and TPA20. (on the extension board/AT-55B board)

Test point: TP23 (GND; E1)/AT-55B board

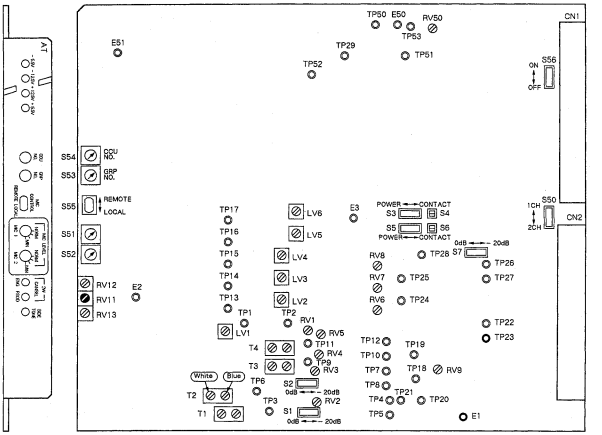


Adjustment Procedures
1. Connect audio generator and INCOM jack as shown.
2. Adjust the level control of audio generator so that the audio level of 1kHz sine-wave at TP3 (GND:E1)/AU-130 board is 300 mVp-p.
3. Adjust RV11/AT-55B board so that the audio level is minimum.





AU-130 BOARD (COMPONENT SIDE)

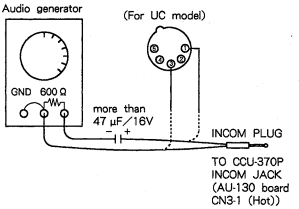


(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

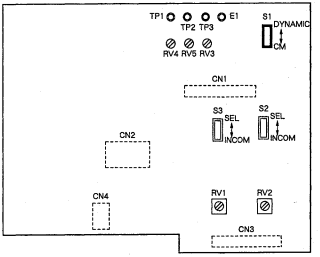
4-6. SIDE TONE ADJUSTMENT

Equipment: Oscilloscope, Audio generator
To be extended: AT-55B board
Preparation
- S1 (DYN/CM) switch/AU-130 board (CCU-370P) → "CM"
- MIC (ON/OFF) switch/CCU-370P (front panel) → "ON"

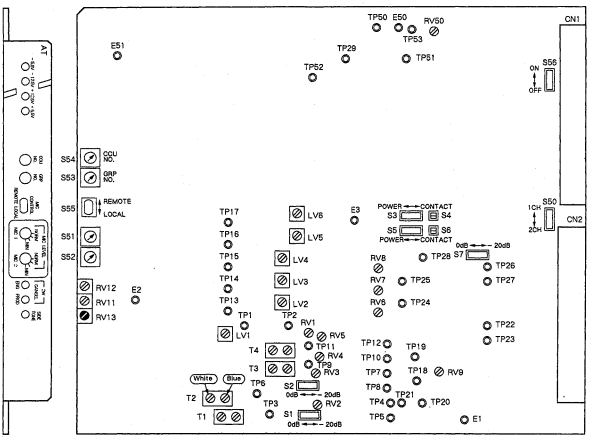
Test point: CN2-TPA18 (GND; E1)/extension board



Adjustment Procedures
1. Connect audio generator and INCOM jack as follows.
2. Adjust the level control of audio generator so that the audio level of 1 kHz sine-wave at TP3(GND:E1)/AU-130 board is 300 mVp-p.
3. When turning ⊘ RV13/AT-55B board fully clockwise ↻, check the output level at CN2-TPA18 (GND;E1) /extension board is 200 ± 20 mVp-p.
4. Readjust ⊘ RV13/AT-55B board so that the level at the same test point is 30 ± 5 mVp-p.
   Notes, this specification is for guidance when maintenance. Therefore, when intercom system is used, adjust ⊘ RV13/AT-55B board to your preferred level. (Refer to "Section 2. installation".)

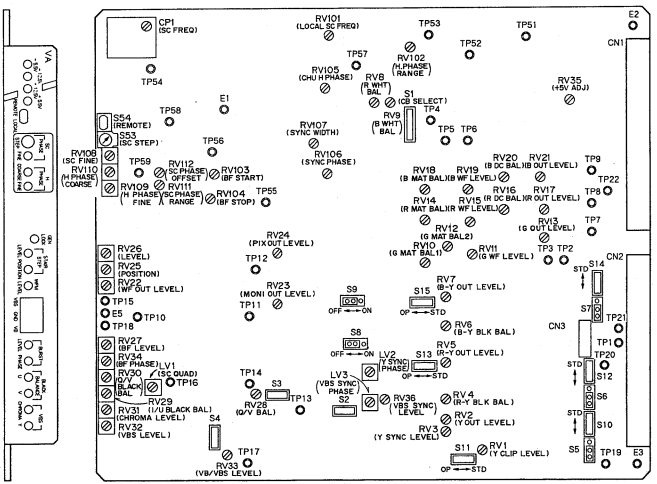


AU-130 BOARD (COMPONENT SIDE)

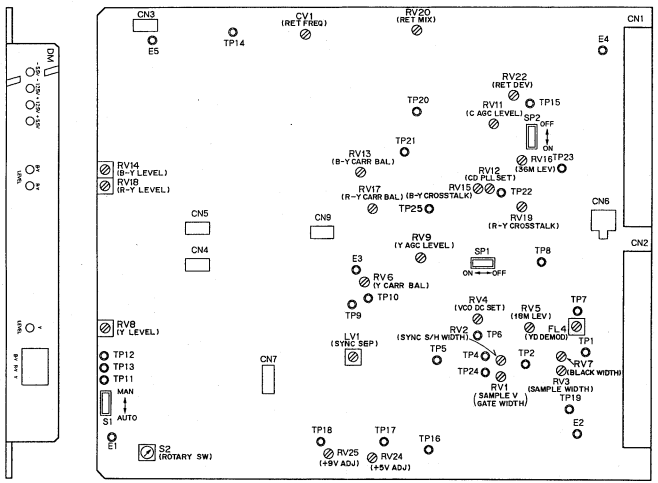


(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

VA-87P BOARD

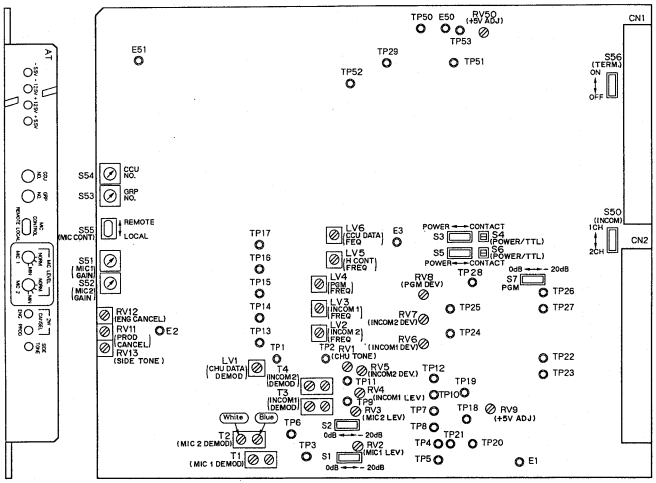

CP1 (SC FREQ)
TP54
RV101 (LOCAL SC FREQ)
TP53
TP51
E2
CN1
TP52
TP57
RV102 (H PHASE) RANGE
RV105 (CHU H PHASE)
RV8 (R WHT) BAL
S1 (CB SELECT)
TP4
RV35 (+5V ADJ)
E1
TP58
S54 (REMOTE)
S53 (SC STEP)
RV9 (B WHT) BAL
TP5
TP6
RV107 (SYNC WIDTH)
TP56
RV106 (SYNC PHASE)
RV100 (SC FINE)
RV110 (H PHASE) COARSE
TP59
RV112 SC PHASE OFFSET
RV103 (BF START)
RV109 (H PHASE) FINE
RV111 (SC PHASE) RANGE
RV104 (BF STOP)
TP55
RV20 (B DC BAL)
RV21 (B OUT LEVEL)
TP9
RV18 (B MAT BAL)
RV19 (B WF LEVEL)
TP22
RV16 (R DC BAL)
RV17 (R OUT LEVEL)
TP8
RV14 (R MAT BAL)
RV15 (R WF LEVEL)
RV13 (G OUT LEVEL)
TP7
RV12 (G MAT BAL2)
RV24 (PIX OUT LEVEL)
RV10 (G MAT BAL1)
RV11 (G WF LEVEL)
TP3
TP2
CN2
TP12
RV26 (LEVEL)
RV25 (POSITION)
RV22 (WF OUT LEVEL)
TP15
E5
TP10
TP18
RV23 (MONI OUT LEVEL)
TP11
S9
RV7 (B-Y OUT LEVEL)
S15
S14
S7
TP21
CN3
TP1
S8
RV6 (B-Y BLK BAL)
RV27 (BF LEVEL)
RV34 (BF PHASE)
LV1
RV30 (R-Y BLACK BAL)
ISC QUAD
TP16
TP14
S3
LV3 (VBS SYNC) PHASE
LV2 (Y SYNC) PHASE
S13
RV5 (R-Y OUT LEVEL)
TP20
S12
RV29
RV31 (I/U BLACK BAL) (CHROMA LEVEL)
RV32 (VBS LEVEL)
TP13
RV28 (Q/V BAL)
S2
RV36 (VBS SYNC) LEVEL
RV4 (B-Y BLK BAL)
S6
RV2 (Y OUT LEVEL)
S4
RV3 (Y SYNC LEVEL)
S10
TP17
RV33 (VB/VBS LEVEL)
S11
RV1 (Y CLIP LEVEL)
S5
TP19
E3
(PANEL SIDE)
VA-87P BOARD (COMPONENT SIDE)

DM-79 BOARD



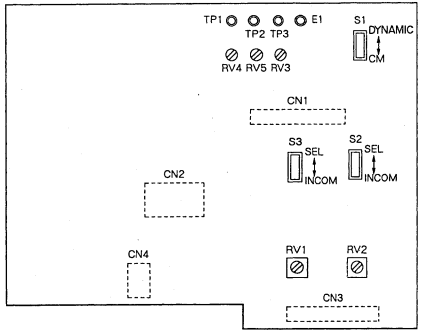
(PANEL SIDE) DM-79 BOARD (COMPONENT SIDE)

AT-55A/55B BOARD



(PANEL SIDE) AT-55A/AT-55B BOARD (COMPONENT SIDE)

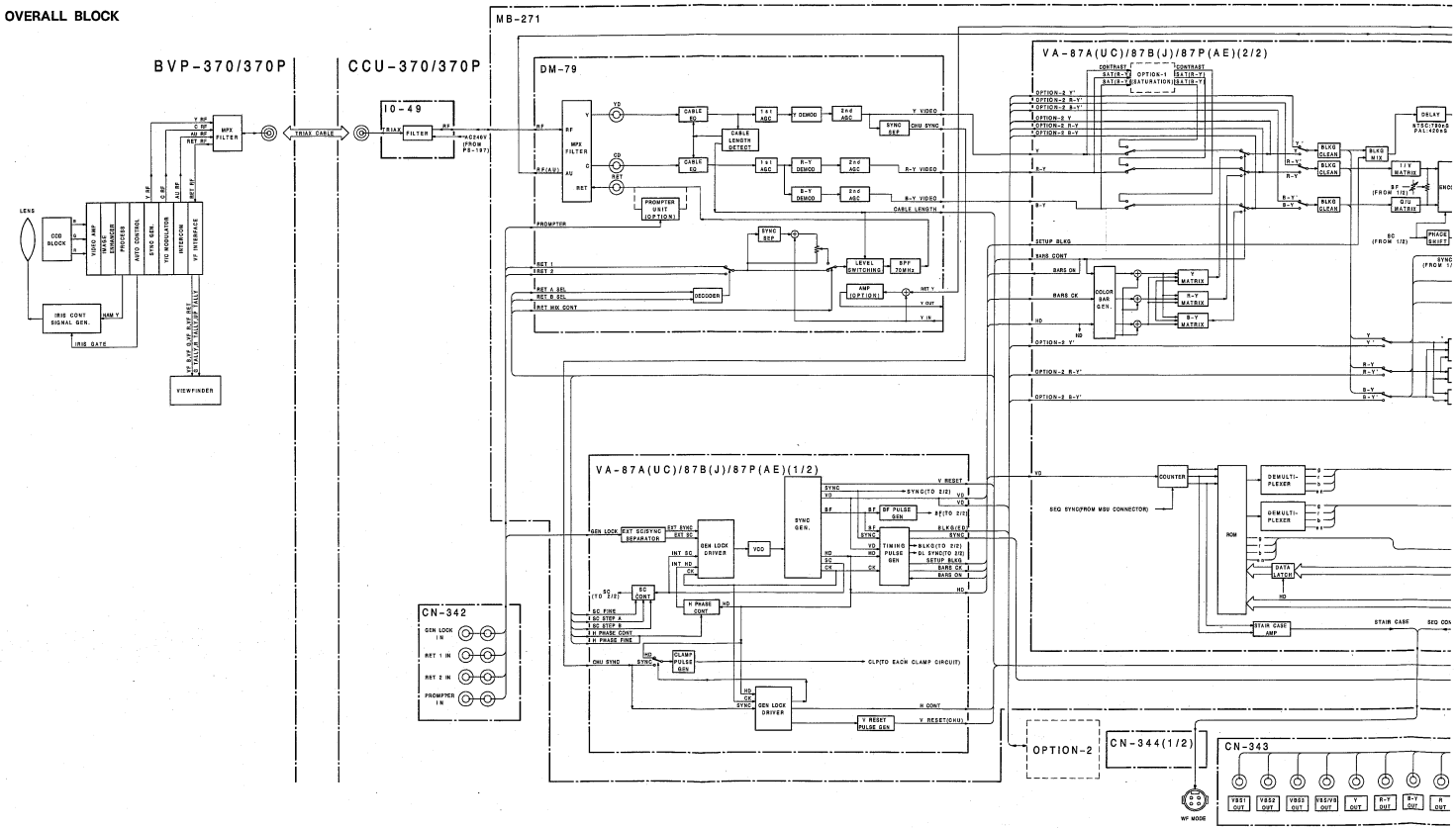
AU-130 BOARD

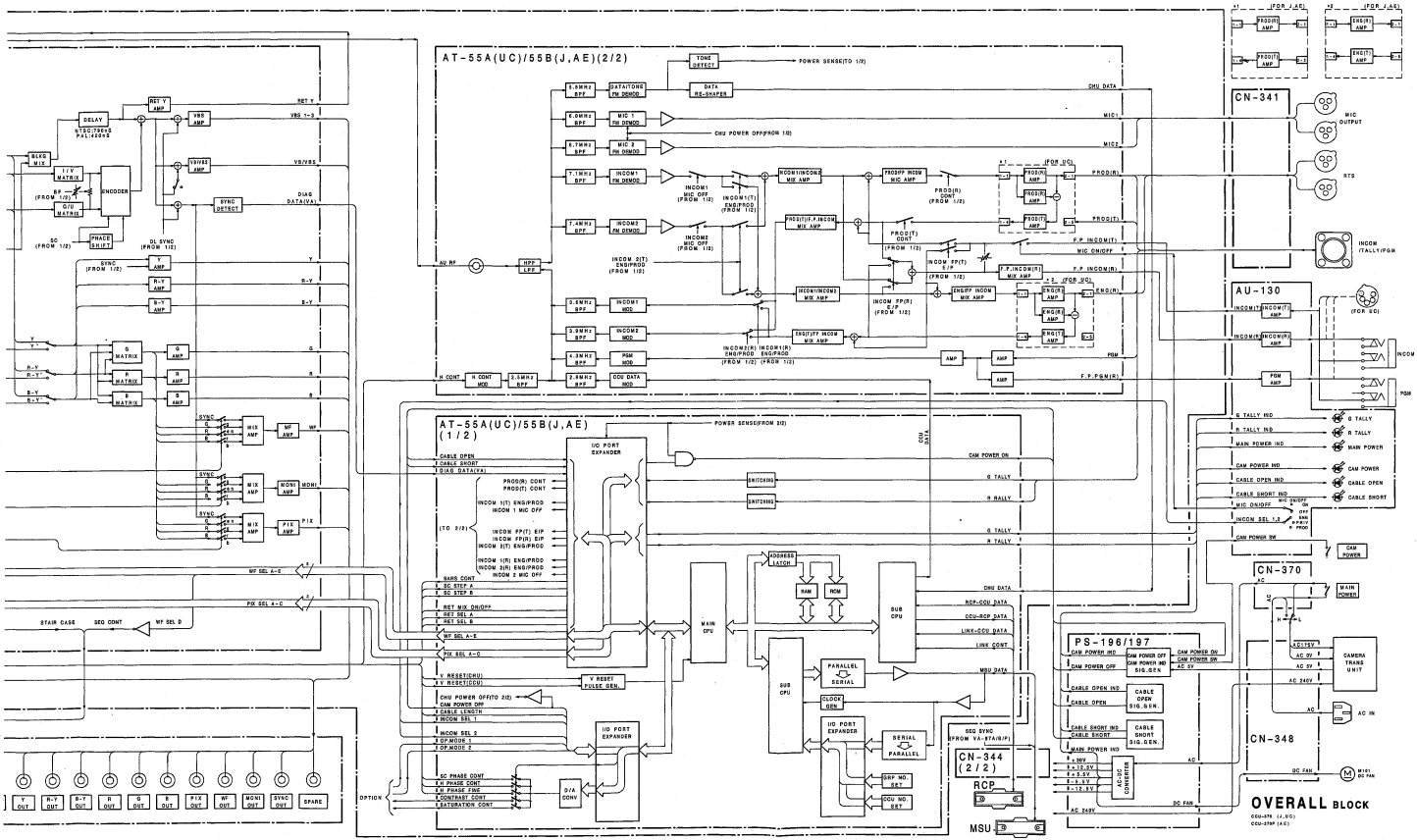


AU-130 BOARD (COMPONENT SIDE)

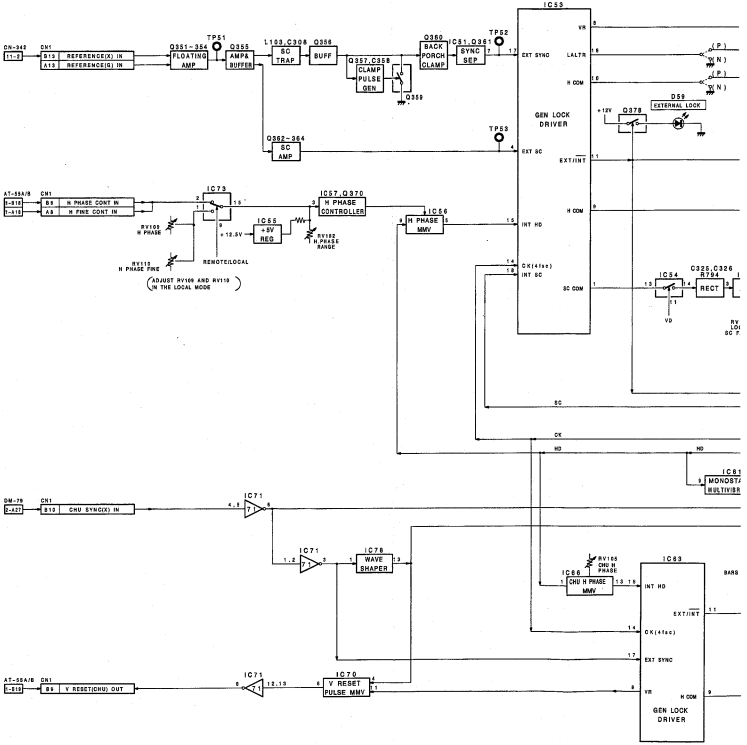
SECTION A
BLOCK DIAGRAMS

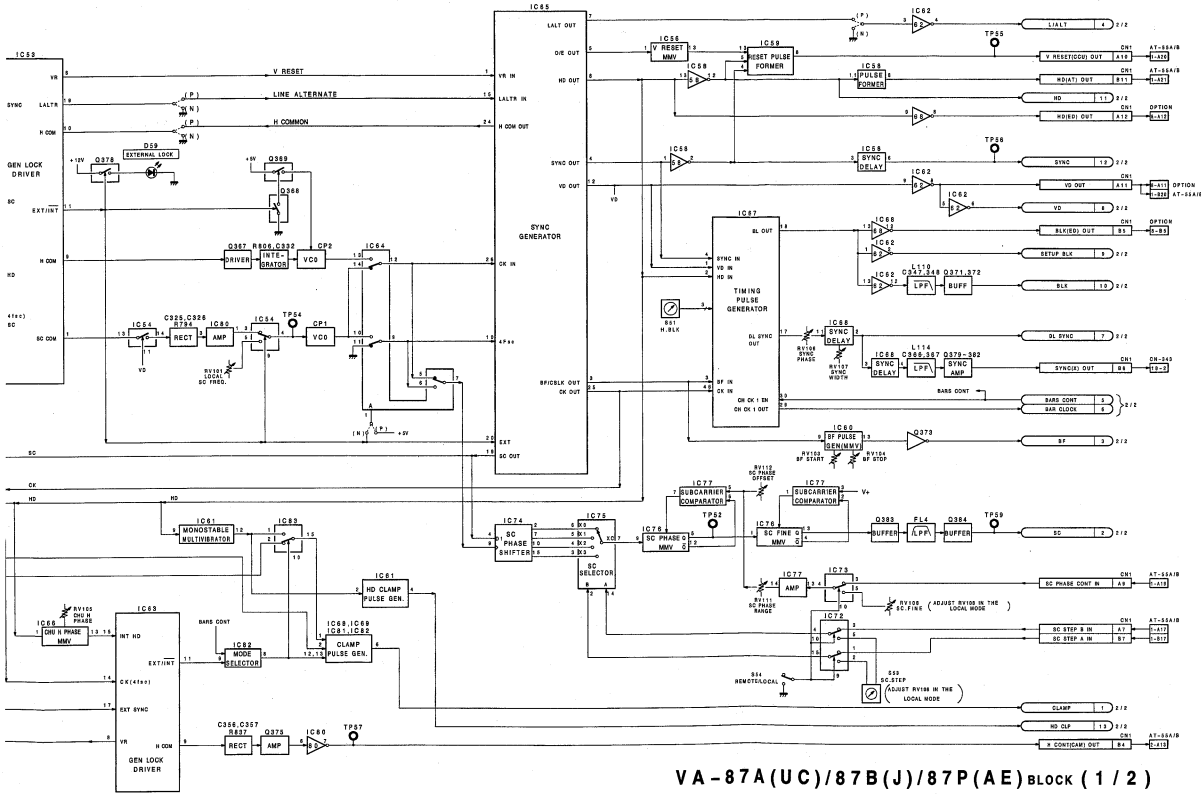
OVERALL BLOCK




AT-55A(UC)/55B(J,AE)(2/2)
AT-55A(UC)/55B(J,AE)
(1/2)
CN-341
AU-130
CN-370
CN-348
CN-344
(2/2)
RCP
MSU
PS-196/197
OVERALL BLOCK
A-3
A-4

VA-87A/87B/87P BLOCK (1/2)

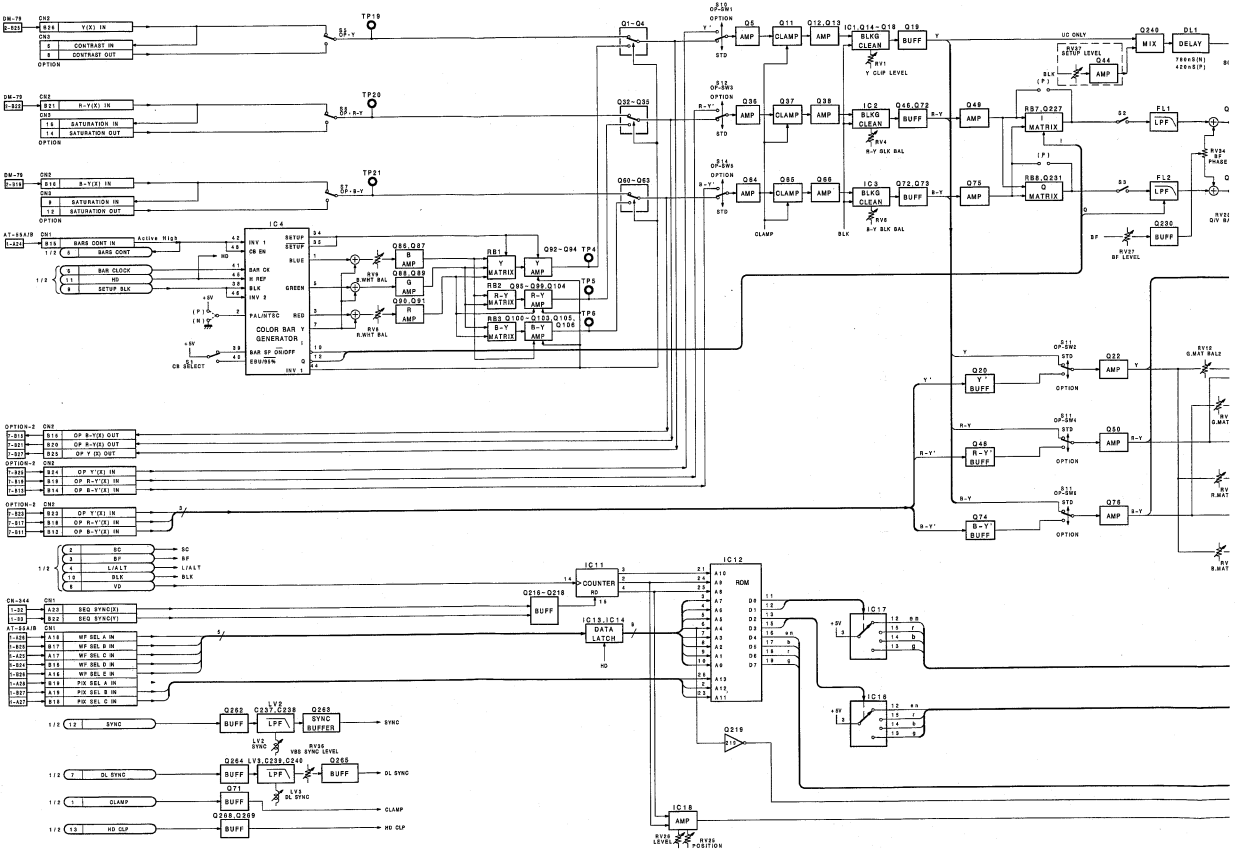


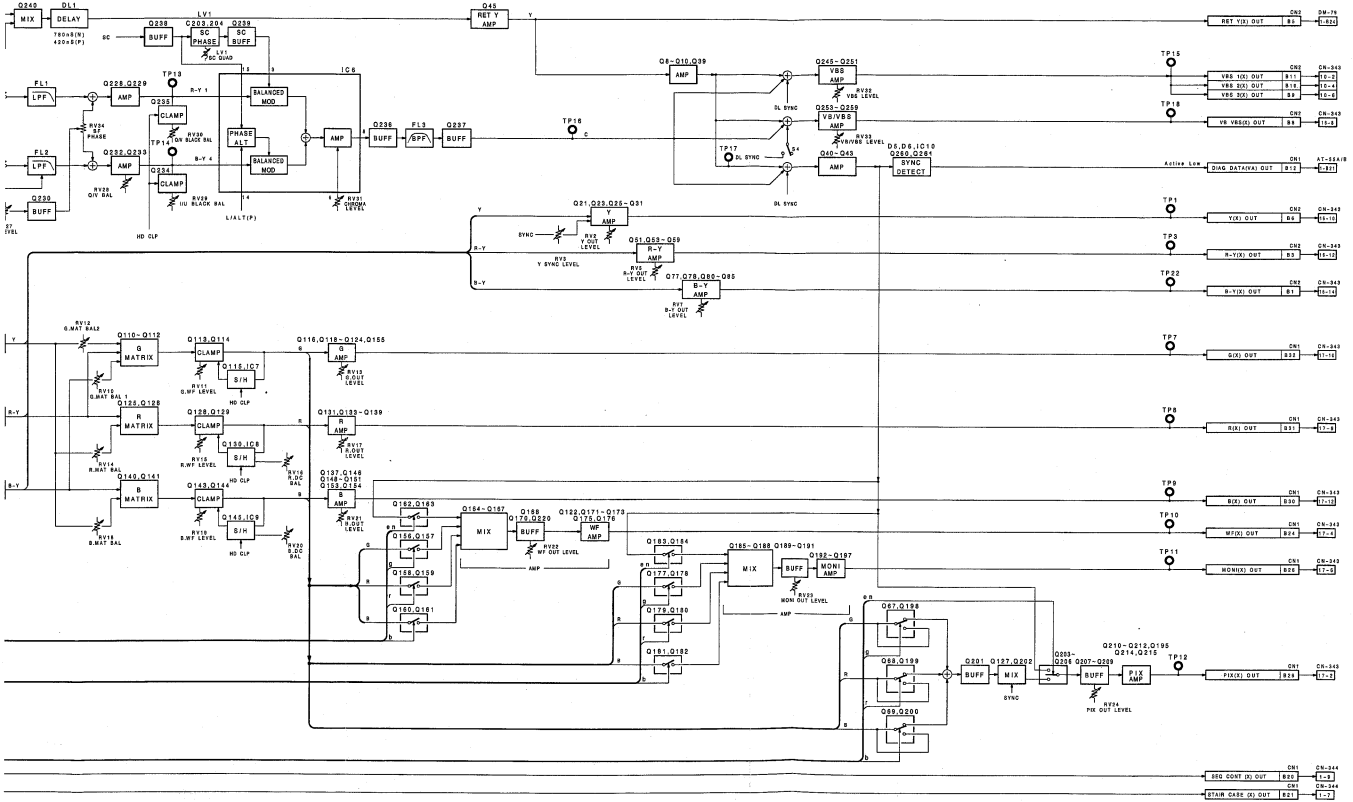


VA-87A(UC)/87B(J)/87P(AE) BLOCK (1/2)

CCU-370 (J,UC)
CCU-370P (AE)

VA-87A/87B/87P BLOCK (2/2)





VA-87A(UC)/87B(J)/87P(AE) BLOCK (2/2)

CCU-370 (J,UC)
CCU-370P (AE)

SECTION B
SEMICONDUCTOR

The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

TYPE	PAGE
1S1555	B-3
1S1585	B-3
1S2076A	B-3
1S2348H	B-3
1S2836	B-3
1S2837	B-3
1S2838	B-3
1SS119	B-3
1SS123	B-3
1SS168	B-3
1SS226	B-3
1SS238	B-3
1SS97	B-3
1SV34	B-3
1SZ46A	B-3
1T33	B-3
2SA1122	B-4
2SA1162	B-4
2SA1226	B-4
2SA1235	B-4
2SA1330	B-4
2SA1462	B-4
2SA812	B-4
2SB733	B-4
2SC1009A	B-4
2SC1623	B-4
2SC2714	B-4
2SC2757	B-4
2SC2785	B-4
2SC3318	B-4
2SC3360	B-4
2SC3457	B-4
2SD1350	B-4
2SD1407	B-4
2SD774	B-4
2SK523	B-4
2SK620	B-4
2SK94	B-4
3SK163	B-4
BCR10CM-12L	B-3
BX1082	B-5
BX1304	B-5
BX1305	B-5
CX20183	B-5
CX22017	B-5
CX7930A	B-6
CX7968A	B-8
CX7969	B-8
CX7998	B-10
CXK58257M-10L	B-10
EBR5534S	B-3
ERA81-005	B-3
ERA84-009	B-3
ERB91- ? ?	B-3
ERC81-004	B-3
FC52M	B-3
FC53M	B-3
GL-5PG95	B-3
GL-5PR5	B-3
HSM88AS	B-3
HZ ?BLL	B-3
LA1235	B-11
LB156	B-3
LM1881M	B-11
LT-9220D	B-3
MBM27C512-25	B-11
MC14001BF	B-12
MC14011BF	B-12
MC14014BF	B-12
MC14017BF	B-12
MC14024BF	B-12
MC14028BF	B-13
MC14051BF	B-13
MC14053BF	B-13
MC14076BF	B-13
MC14520BF	B-14
MC14528BF	B-14
MC34182M	B-14
MC74HC4053F	B-14
MSM80C154RS	B-14
MSM82C55A-2GS	B-15
NJM567M	B-16
RC1496M	B-16
RC4556MA	B-16
RC4558M	B-16
RC4560M	B-16
RC78L05A	B-16
RC78L09A	B-16
RD ? ?EB ?	B-3
RD ? ?EL ?	B-3
RD ? ?ESB ?	B-3
RD ? ?FB ?	B-3
RH1A	B-3
S1WB60	B-3
SN74HC153NS	B-16
SN74HC158NS	B-17
SN74HC175NS	B-17
SN74HC573NS	B-17
SN74HC85NS	B-17
SN74LS02NS	B-17
SN74LS123NS	B-17
SN74LS221NS	B-18
SN75176BP	B-18
TA7303P	B-18
TC4016BFHB	B-18
TC4030BFHB	B-18
TC4053BFHB	B-13
TC40H000F	B-18
TC40H004F	B-18
TC40H139F	B-18
TC40H163F	B-19
TC40H164F	B-19
TC40H244F	B-19
TC40H245F	B-19
TC40H373PF	B-19
TC4S11FF	B-19
TC4S30FF	B-19
TC4S69F	B-20
TC4S71F	B-20
TC74HC221F	B-20
TC74HC4053AF	B-14
TC7S00F	B-20
TC7S04F	B-20
TL022CPS	B-20
TL062ACP	B-20
TL062ACPS	B-20
TL062CPS	B-20
TL064CNS	B-20
TL494CN	B-20
TL607CPS	B-20
TL7705CPS-B	B-20
TLC272CPS	B-21
TLG223	B-3

TYPE	PAGE
TLP560J	B-3
TLP621	B-3
TLP624	B-3
TLP651	B-21
uPC311G2	B-21
uPC339G2	B-21
uPC393G2	B-21
uPD27C512G-20	B-21
uPD28C64C-20	B-21
uPD7004C	B-22
uPD82C43G	B-22
uPD8749HD	B-23
V09G	B-3

1S1555
1S1585
1S2078A
1S2348H
1SS119
1SS168
1SS238
1SV34
ERA84-009
ERB91- ? ?
RH1A

TOP VIEW (SCALE 4/1)

1S2836

TOP VIEW (SCALE 4/1)

1S2837
1S2836

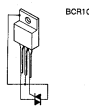
TOP VIEW (SCALE 4/1)

1SS123
1SS226
HSM88AS

1SS97
ERA81-005
ERC81-004

1SZ46A

1T33



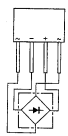
BCR10CM-12L

EBR5534S ; RED
GL-5PR5 ; RED

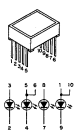
FCS2M
FCS3M

GL-5PG95 ; GREEN

HZ ?BLL
RD ? ?EB ?
RD ? ?EL ?
RD ? ?ESB ?
RD ? ?FB ?



LB156



LT-9220D ; RED

S1WB60

TLG223 ; GREEN

TLP560J

TOP VIEW

TLP621

(TOP VIEW)

TLP624

V09G

TOP VIEW (SCALE 4/1)

2SA1122
2SA1162
2SA1226
2SA1235
2SA1330
2SA1462
2SA812

2SB733

TOP VIEW (SCALE 4/1)

2SC1009A
2SC1623
2SC2714
2SC2757
2SC3360

TYPE NO. PRINTED

2SC2785

2SC3318

2SC3457

(SCALE 2/1)

2SD1350

2SD1407

2SD774

2SK523

TOP VIEW (SCALE 2/1)

2SK820

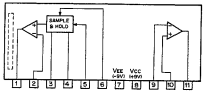
TOP VIEW (SCALE 4/1)

2SK94

3SK163

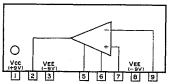
BX1082 (SONY)

OPERATIONAL AMPLIFIER
– REAR VIEW –



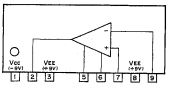
BX1304 (SONY)

VIDEO AMPLIFIER
– PRINTED SIDE –



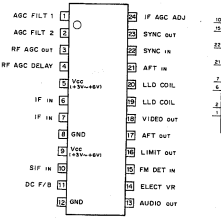
BX1305 (SONY)

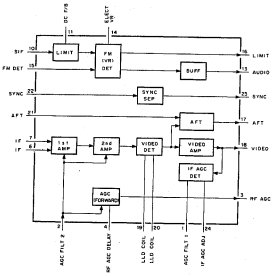
VIDEO AMPLIFIER
– PRINTED SIDE –



CX20183 (SONY) FLAT PACKAGE

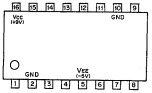
TV VIDEO SIGNAL PROSESSOR
– TOP VIEW –

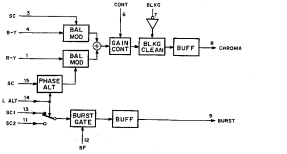




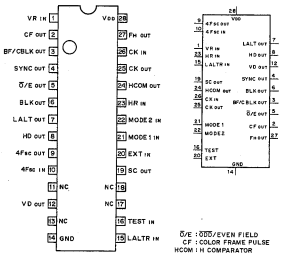
CX22017 (SONY)

VIDEO SIGNAL PROCESSOR
– TOP VIEW –





CX7930A (SONY) (V_{DD} = +5V) FLAT PACKAGE
C-MOS SYNC GENERATOR (NTSC, PAL-M, PAL, SECAM)
– TOP VIEW –



R̄/E : ODD/EVEN FIELD
CF : COLOR FRAME PULSE
HCOM : H COMPARATOR

SYSTEM	4Fsc	CLOCK
NTSC	910 FH	910Fs
PAL	1135Fh+2Fv	909Fh
PALM	909 Fh	910Fs
SECAM	———	909Fh

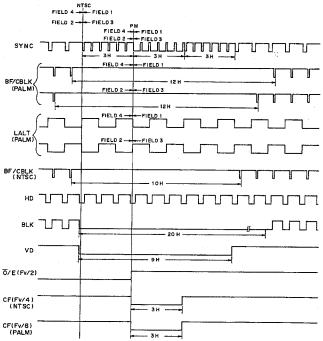
INPUTS MODE 1	INPUTS MODE 2	SYSTEM
0	0	NTSC
0	1	SECAM
1	0	PALM
1	1	PAL

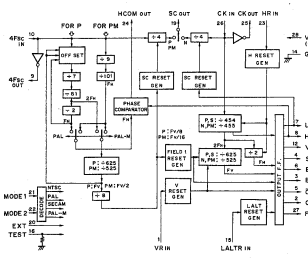
INPUTS EXT	INPUTS TEST	FUNCTION
0	0	INTERNAL
0	1	INVALID
1	0	EXT
1	1	TEST

0 ; LOW LEVEL (GND)
1 ; HIGH LEVEL (VDD)

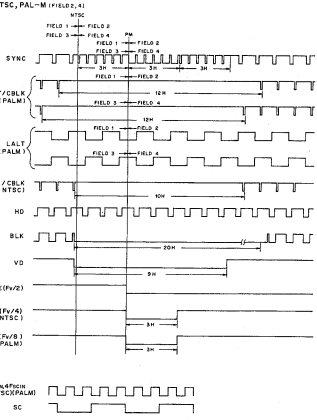
TEST "0" : OPEN (INTERNALLY PULLED DOWN)

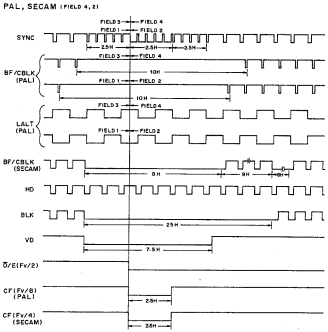
NTSC, PAL-M (FIELD 1,3)

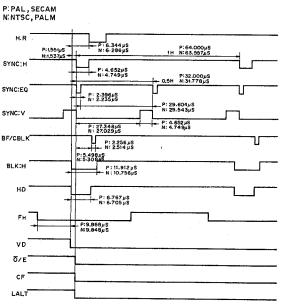


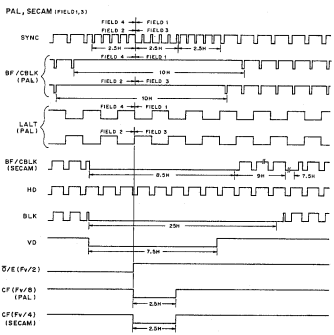


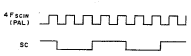
NTSC, PAL-M (FIELD 2, 4)




PAL, SECAM (FIELD 4, 2)
SYNC
FIELD 3 FIELD 4
FIELD 1 FIELD 2
2.5H
2.5H
2.5H
FIELD 3 FIELD 4
BF/CBLK (PAL)
10H
FIELD 1 FIELD 2
10H
FIELD 3 FIELD 4
LALT (PAL)
FIELD 1 FIELD 2
BF/CBLK (SECAM)
8.5H
9H
7.5H
HD
BLK
2.5H
VD
7.5H
R/EI(Fv/2)
CF(Fv/8) (PAL)
2.5H
CF(Fv/4) (SECAM)
2.5H


P:PAL, SECAM
N:NTSC, PALM
H.R
P:1.389μS
N:1.533μS
P:64.000μS
N:63.557μS
1H
SYNC:H
P:4.692μS
N:4.762μS
P:32.000μS
N:31.778μS
0.5H
SYNC:EQ
P:2.396μS
N:2.222μS
P:29.604μS
N:29.543μS
SYNC:V
P:27.939μS
N:27.937μS
P:4.992μS
N:4.762μS
BF/CBLK
P:5.859μS
N:5.524μS
P:5.469μS
N:5.079μS
BLK:H
P:11.912μS
N:10.756μS
HD
P:6.787μS
N:6.709μS
FH
P:9.969μS
N:9.842μS
VD
R/E
CF
LALT

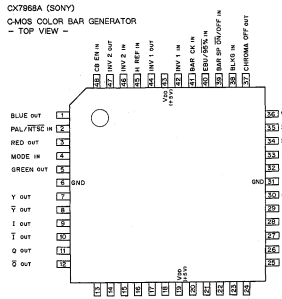

PAL, SECAM (FIELD 1, 3)
SYNC
FIELD 4 FIELD 1
FIELD 2 FIELD 3
2.5H
2.5H
2.5H
FIELD 4 FIELD 1
BF/CBLK (PAL)
10H
FIELD 2 FIELD 3
10H
FIELD 4 FIELD 1
LALT (PAL)
FIELD 2 FIELD 3
BF/CBLK (SECAM)
8.5H
9H
7.5H
HD
BLK
2.5H
VD
7.5H
R/E(Fv/2)
CF(Fv/8) (PAL)
2.5H
CF(Fv/4) (SECAM)
2.5H


4Fscw (PAL)
SC

CX7988A (SONY)

C-MOS COLOR BAR GENERATOR

– TOP VIEW –


CB EN IN
INV 2 OUT
INV 2 IN
H REF IN
INV 1 OUT
INV 1 IN
BAR CK IN
EBU/95% IN
BAR SP ON/OFF IN
BLKG IN
CHROMA OFF OUT
BLUE OUT
PAL/NTSC IN
RED OUT
MODE IN
GREEN OUT
GND
Y OUT
R-Y OUT
I OUT
T OUT
Q OUT
B-Y OUT
WHITE OUT
SETUP OUT
SETUP OUT
NC
NC
CK OUT
NC
NC
NC

1. SYSTEM DESIGNATION

INPUT PAL/NTSC IN	SYSTEM
1	PAL, SECAM
0	NTSC, PAL-M

2. TYPE OF TUBE

INPUT MF/MM IN	FUNCTION
1	MAG-STA TUBE
0	MAG-MAG TUBE

3. V BLKG WIDTH (NTSC ONLY)

INPUT V BL 19	INPUT V BL 20	V BLKG WIDTH
1	X	19H
0	1	20H
0	0	21H

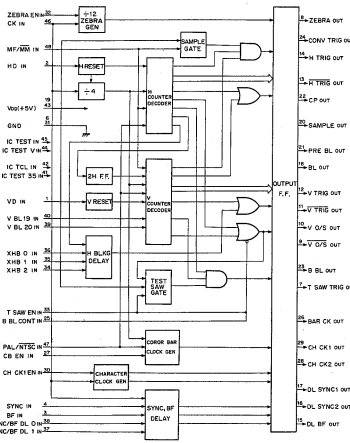
4. H BLKG WIDTH

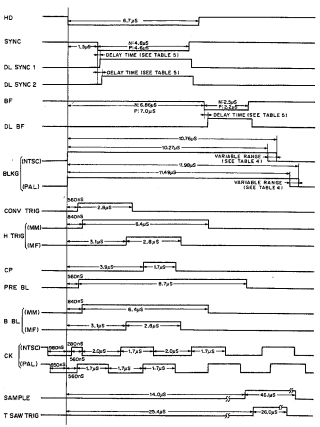
INPUT XHB2	INPUT XHB1	INPUT XHB0	BLKG WIDTH (µS) NTSC	PAL
1	1	1	10.27	11.49
1	1	0	10.34	11.56
1	0	1	10.41	11.63
1	0	0	10.48	11.70
0	1	1	10.55	11.77
0	1	0	10.62	11.84
0	0	1	10.69	11.91
0	0	0	10.76	11.98

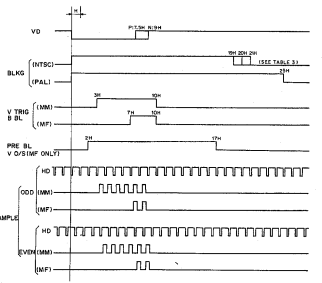
5. DELAY TIME

INPUT SYNC/BF DL 0	INPUT SYNC/BF DL 1	DELAY TIME (nS) DL SYNC 1	DL SYNC 2	DL BF
1	1	140	210	140
1	0	210	280	210
0	1	630	700	630
0	0	700	770	700

1; HIGH LEVEL
0; LOW LEVEL
X; DON'T CARE



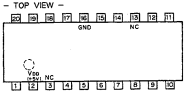




CX7998 (SONY) FLAT PACKAGE

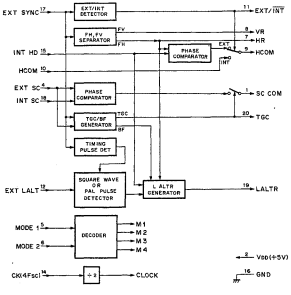
C-MOS GENLOCK DRIVER

– TOP VIEW –



INPUTS MODE 1	INPUTS MODE 2	EXT LOCK MODE	
0	0	M 1	PAL: V-BS
1	0	M 2	PAL-M: V-BS
0	1	M 3	PAL: VS/SC/LALT
			SECAM: VS/SC/LALT
1	1	M 4	NTSC: V-BS
			NTSC: VS/SC
			PAL-M: VS/SC/LALT

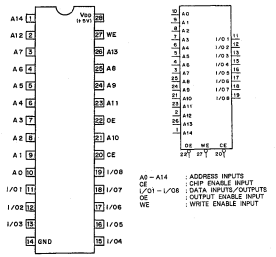
0 ; LOW LEVEL
1 ; HIGH LEVEL



CXK58257M-10L (SONY) (ACCESS TIME = 100nS)

C-MOS 256K(32768x8)-BIT STATIC RAM

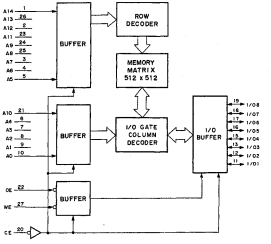
– TOP VIEW –



A0 – A14 : ADDRESS INPUTS
CE : CHIP ENABLE INPUT
I/O1 – I/O8 : DATA INPUTS/OUTPUTS
OE : OUTPUT ENABLE INPUT
WE : WRITE ENABLE INPUT

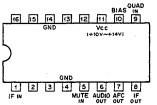
CE	OE	WE	MODE	I/O TERMINAL
1	×	×	NOT SELECT	HIGH IMPEDANCE
0	1	1	OUTPUT DISABLE	HIGH IMPEDANCE
0	0	1	READ	OUTPUT DATA
0	×	0	WRITE	INPUT DATA

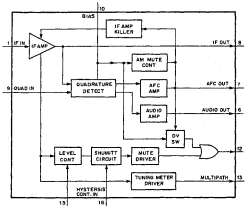
0 : LOW LEVEL
1 : HIGH LEVEL
× : DON'T CARE



LA1235 (SANYO)

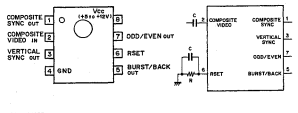
FM IF DEMODULATOR
– TOP VIEW –

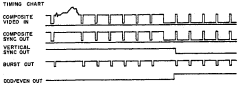




LM1881M (NS) FLAT PACKAGE

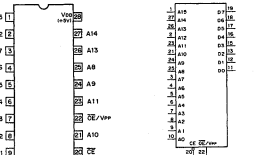
VIDEO SYNC SEPARATOR
– TOP VIEW –





MBM27C512-25 (FUJITSU) (ACCESS TIME = 250nS)

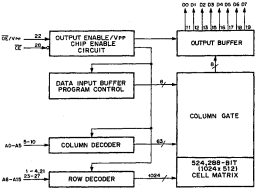
C-MOS 512K(65,536x8 = 524,288)-BIT ERASABLE PROM
– TOP VIEW –



A0 – A15 ; ADDRESS INPUTS
CE ; CHIP ENABLE INPUT
O0 – O7 ; DATA OUTPUTS
OE ; OUTPUT ENABLE INPUT
Vpp ; PROGRAM POWER SUPPLY

A9	CE	OE/Vpp	VCC	Do	FUNCTION
A9	0	0	+5V	DOUT	READ
A9	0	1	+5V	Hi-Z	OUTPUT DISABLE
X	1	X	+5V	Hi-Z	STANDBY
A9	0	+12.5V	+6V	DIN	PGM
A9	0	0	+6V	DOUT	PGM VERIFY
X	1	+12.5V	+6V	Hi-Z	PGM INH

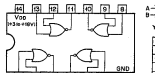
0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE
Hi-Z ; HIGH IMPEDANCE



MC14001BF (MOTOROLA) FLAT PACKAGE

C-MOS 2-INPUT NOR GATE

– TOP VIEW –



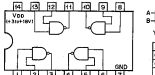
A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

MC14011BF (MOTOROLA) FLAT PACKAGE

C-MOS 2-INPUT NAND GATE

– TOP VIEW –



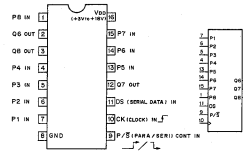
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

MC14014BF (MOTOROLA) FLAT PACKAGE

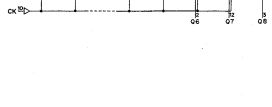
C-MOS SYNCHRONOUS SERIAL/PARALLEL 8-BIT STATIC SHIFT REGISTER

– TOP VIEW –



Tn									Tn+1		
INPUTS					INTERNAL OUTPUTS					OUTPUTS		
P/S CONT	CK	P		DS	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
1	↑	P1~P8		X	P1	P2	P3	P4	P5	P6	P7	P8
0	↑	X		1	1	Q1n	Q2n	Q3n	Q4n	Q5n	Q6n	Q7n
0	↑	X		0	0	Q1n	Q2n	Q3n	Q4n	Q5n	Q6n	Q7n
X	0	X		X	Q1n	Q2n	Q3n	Q4n	Q5n	Q6n	Q7n	Q8n

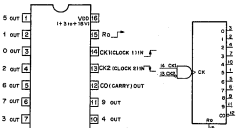
0 ; LOW LEVEL X ; DON'T CARE, n ; BEFORE CLOCK
1 ; HIGH LEVEL n+1 ; AFTER CLOCK



MC14017BF (MOTOROLA) FLAT PACKAGE

C-MOS DECADE COUNTER/DIVIDER

– TOP VIEW –



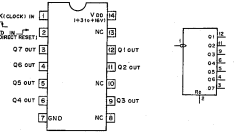
COUNT	INPUTS			OUTPUTS								
	RO	CK	CK2	9	8	7	6	5	4	3	2	1	0	CO
0	1	X	X	0	0	0	0	0	0	0	0	0	1	1
0	0	↑	X	0	0	0	0	0	0	0	0	1	1	1
1	0	↑	X	0	0	0	0	0	0	0	1	0	1	1
2	0	↑	X	0	0	0	0	0	0	0	1	0	0	1
3	0	↑	X	0	0	0	0	0	0	1	0	0	0	1
4	0	↑	X	0	0	0	0	0	1	0	0	0	0	1
5	0	↑	X	0	0	0	0	1	0	0	0	0	0	1
6	0	↑	X	0	0	0	1	0	0	0	0	0	0	0
7	0	↑	X	0	0	1	0	0	0	0	0	0	0	0
8	0	↑	X	0	1	0	0	0	0	0	0	0	0	0
9	0	↑	X	1	0	0	0	0	0	0	0	0	0	0
	0	↑		NO CHANGE										
NO COUNT	0	0												

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MC14024BF (MOTOROLA) FLAT PACKAGE

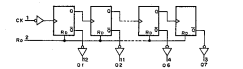
C-MOS ASYNCHRONOUS 7-BIT BINARY COUNTER

– TOP VIEW –

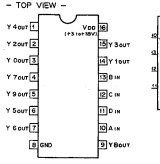


COUNT	INPUTS		OUTPUTS							
	CK	RO	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
0	X	1	0	0	0	0	0	0	0	0
1	↓	0	0	0	0	0	0	0	0	1
2	↓	0	0	0	0	0	0	0	1	0
3	↓	0	0	0	0	0	0	0	1	1
4	↓	0	0	0	0	0	0	1	0	0
125	↓	0	1	1	1	1	1	0	1	
126	↓	0	1	1	1	1	1	1	0	
127	↓	0	1	1	1	1	1	1	1	
—	—	0	NO CHANGE							
—	—	1								

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE



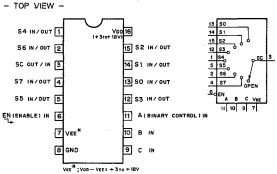
MC14028BF (MOTOROLA) FLAT PACKAGE
CMOS BCD TO DECIMAL DECODER
– TOP VIEW –



STATE	INPUTS				OUTPUTS									
	D	C	B	A	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9
0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
1	0	0	0	1	0	1	0	0	0	0	0	0	0	0
2	0	0	1	0	0	0	1	0	0	0	0	0	0	0
3	0	0	1	1	0	0	0	1	0	0	0	0	0	0
4	0	1	0	0	0	0	0	0	1	0	0	0	0	0
5	0	1	0	1	0	0	0	0	0	1	0	0	0	0
6	0	1	1	0	0	0	0	0	0	0	1	0	0	0
7	0	1	1	1	0	0	0	0	0	0	0	1	0	0
8	1	0	0	0	0	0	0	0	0	0	0	0	1	0
9	1	0	0	1	0	0	0	0	0	0	0	0	0	1
10	1	0	1	0	0	0	0	0	0	0	0	0	0	0
11	1	0	1	1	0	0	0	0	0	0	0	0	0	0
12	1	1	0	0	0	0	0	0	0	0	0	0	0	0
13	1	1	0	1	0	0	0	0	0	0	0	0	0	0
14	1	1	1	0	0	0	0	0	0	0	0	0	0	0
15	1	1	1	1	0	0	0	0	0	0	0	0	0	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

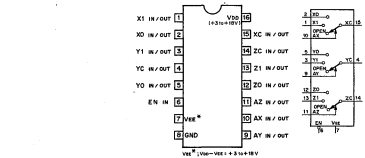
MC14051BF (MOTOROLA) FLAT PACKAGE
CMOS 8-CHANNEL MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –



EN	C	B	A	"ON" CHANNEL
0	0	0	0	0
0	0	0	1	1
0	0	1	0	2
0	0	1	1	3
0	1	0	0	4
0	1	0	1	5
0	1	1	0	6
0	1	1	1	7
1	X	X	X	OPEN

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

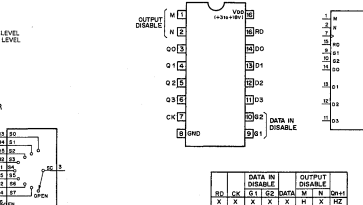
MC14053BF (MOTOROLA) FLAT PACKAGE
TC4053BFHB (TOSHIBA) FLAT PACKAGE
CMOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –



CONT. INPUTS			ON CHANNEL
EN	A	(X,Y,Z)	
0	0		0
0	1		1
1	X		OPEN

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE,

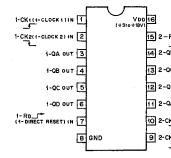
MC14076BF (MOTOROLA) FLAT PACKAGE
4-BIT D-TYPE REGISTER
– TOP VIEW –



		DATA IN DISABLE			OUTPUT DISABLE		
RD	CK	G1	G2	DATA	M	N	Qn+1
X	X	X	X	X	H	X	HZ
X	X	X	X	X	X	H	HZ
H	X	X	X	L	L	L	L
L	L	X	X	X	L	L	Qn
L	↑	H	X	X	L	L	Qn
L	↑	X	H	X	L	L	Qn
L	↑	L	L	H	L	L	H
L	↑	L	L	L	L	L	L
L	H	X	X	X	L	L	Qn
L	↓	X	X	X	L	L	Qn

Qn+1 ; NEXT STATE OF Qn
HZ ; HIGH IMPEDANCE
X ; DON'T CARE

MC14520BF (MOTOROLA) FLAT PACKAGE
C-MOS DUAL 4-BIT BINARY UP COUNTER
– TOP VIEW –

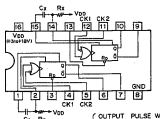


STATE	OUTPUTS			
	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1

(LOW LEVEL
(HIGH LEVEL
(DON'T CARE

CK	CKEN	RD	ACTION
↑	1	0	INCREMENT COUNTER
0	↓	0	INCREMENT COUNTER
↓	X	0	NO CHANGE
X	↑	0	NO CHANGE
↑	0	0	NO CHANGE
1	↓	0	NO CHANGE
X	X	1	QA THRU QD = 0

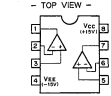
MC14528BF (MOTOROLA) FLAT PACKAGE
C-MOS RETRIGGERABLE/RESETTABLE MMV
– TOP VIEW –



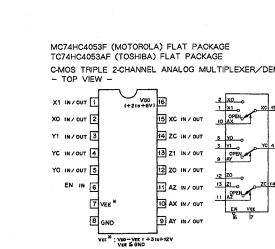
INPUTS			OUTPUTS	
CK	CKB	RD	Q	Q
↑	1	1	↑	1_F
↑	0	1	0	0
1	↓	1	0	0
0	↓	1	↑	1_F
X	X	0	0	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

MC34182M (MOTOROLA) FLAT PACKAGE
JFET INPUT OPERATIONAL AMPLIFIER
– TOP VIEW –



MC74HC4053F (MOTOROLA) FLAT PACKAGE
TC74HC4053AF (TOSHIBA) FLAT PACKAGE
C-MOS TRIPLE 2-CHANNEL ANALOG MULTIPLEXER/DEMULTIPLEXER
– TOP VIEW –

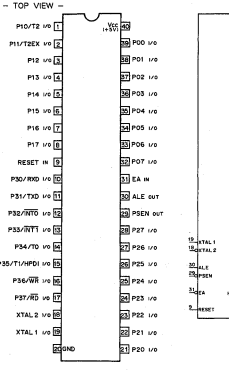


VEE* : VDD – VEE = 2 to +12V
VEE = GND

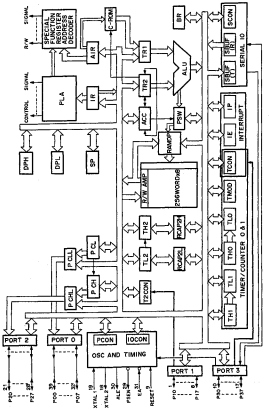
CONT. INPUTS		ON
EN	TA	CHANNEL
0	0	0
0	1	1
1	X	OPEN

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE.

MSM80C154RS (OKI)
C-MOS 8-BIT MICROCOMPUTER
– TOP VIEW –



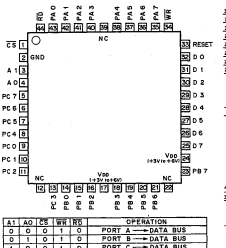
ALE ; ADDRESS LATCH ENABLE OUTPUT
EA ; CPU MEMORY SEPARATE INPUT
HPDI ; HARD POWER DOWN INPUT
INT0, INT1 ; EXTERNAL INTERRUPT
P00 – P07 ; PORT 0 (BUS PORT) INPUT/OUTPUT
P10 – P17 ; PORT 1 INPUT/OUTPUT
P20 – P27 ; PORT 2 INPUT/OUTPUT
P30 – P37 ; PORT 3 INPUT/OUTPUT
PSEN ; PROGRAM STORE ENABLE OUTPUT
RD ; EXTERNAL DATA MEMORY READ STROBE
RESET ; RESET INPUT
RXD ; SERIAL INPUT PORT
T0 – T2 ; TIMER COUNTER EXTERNAL CLOCK
T2EX ; TIMER COUNTER 2 EXTERNAL CONTROL
TXD ; SERIAL OUTPUT PORT
WR ; EXTERNAL DATA MEMORY WHITE STROBE
XTAL1, XTAL2 ; CRYSTAL



MSM82C55A-2GS (OKI) FLAT PACKAGE

CMOS PROGRAMMABLE PERIPHERAL INTERFACE

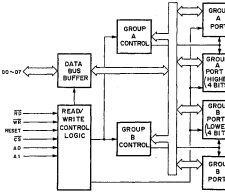
– TOP VIEW –



A1	A0	CS	WR	RD	OPERATION
0	0	0	1	0	PORT A ⟶ DATA BUS
0	1	0	1	0	PORT B ⟶ DATA BUS
1	0	0	1	0	PORT C ⟶ DATA BUS
1	1	0	1	0	NO OPERATION
0	0	0	0	1	DATA BUS ⟶ PORT A
0	1	0	0	1	DATA BUS ⟶ PORT B
1	0	0	0	1	DATA BAS ⟶ PORT C
1	1	0	0	1	DATA BUS ⟶ CONTROL REGISTER
X	X	1	X	X	HIGH IMPEDANCE

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

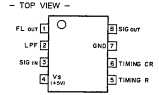
A0, A1 ; PORT SELECT ADDRESS
CS ; CHIP SELECT
D0~7 ; DATA BUS
PA0~7 ; PORT A IN/OUT
PB0~7 ; PORT B IN/OUT
PC0~7 ; PORT C IN/OUT
RD ; READ
WR ; WRITE

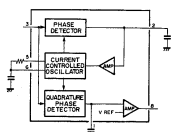


NJM567M (JRC) FLAT PACKAGE

TONE DECODER

– TOP VIEW –

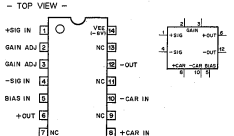




RC1498M (RAYTHEON) FLAT PACKAGE

BALANCED MODULATOR/DEMODULATOR

– TOP VIEW –

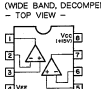


RC4556MA (RAYTHEON) FLAT PACKAGE

OPERATIONAL AMPLIFIER

(WIDE BAND, DECOMPENSATED)

– TOP VIEW –



RC4558M (RAYTHEON) FLAT PACKAGE

OPERATIONAL AMPLIFIER

– TOP VIEW –

RC4560M (RAYTHEON) FLAT PACKAGE

OPERATIONAL AMPLIFIER

– TOP VIEW –

RC78L05A (RAYTHEON)

RC78L09A (RAYTHEON)

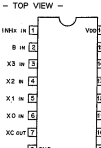
POSITIVE VOLTAGE REGULATOR (100mA)

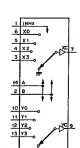
OUTPUT VOLTAGE	NJM78L??A	RC78L??A	uA78L??ACL	uA78L??AWV	uPC78L??J	AN78L??
+2.6V	NJM78L02A	RC78L02A	uA78L02ACL	uA78L26AWV	---------	-------
+4V	---------	---------	---------	---------	---------	AN78L04
+5V	NJM78L05A	RC78L05A	uA78L05ACL	uA78L05AWV	uPC78L05J	AN78L05
+6V	NJM78L06A	RC78L06A	---------	---------	---------	AN78L06
+6.2V	---------	--------	uA78L62ACL	uA78L62AWV	---------	-------
+7V	---------	--------	---------	---------	---------	AN78L07
+8V	NJM78L08A	RC78L08A	uA78L08ACL	---------	uPC78L08J	AN78L08
+8.2V	---------	---------	---------	uA78L82AWV	---------	-------
+9V	NJM78L09A	RC78L09A	uA78L09ACL	uA78L09AWV	---------	AN78L09
+10V	---------	---------	uA78L10ACL	---------	uPC78L10J	AN78L10
+12V	NJM78L12A	RC78L12A	uA78L12ACL	uA78L12AWV	uPC78L12J	AN78L12
+15V	NJM78L15A	RC78L15A	uA78L15ACL	uA78L15AWV	uPC78L15J	AN78L15
+18V	NJM78L18A	RC78L18A	----------	uA78L18AWV	---------	AN78L18
+20V	NJM78L20A	RC78L20A	----------	---------	---------	AN78L20
+24V	NJM78L24A	RC78L24A	----------	uA78L24AWV	---------	AN78L24

SN74HC153NS (TI) (V_{DD} = +2 to +6V) FLAT PACKAGE

C-MOS DUAL 4-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER

– TOP VIEW –



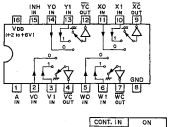


CONTROL IN			ON
INH	B	A	CHANNEL
0	0	0	0
0	0	1	1
0	1	0	2
0	1	1	3
1	X	X	GND

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE

SN74HC158NS (TI) FLAT PACKAGE

C-MOS 2-LINE-TO-1-LINE INVERTED DATA SELECTOR/MULTIPLEXER
– TOP VIEW –

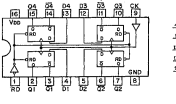


CONT.	IN	ON
INH	A	CHANNEL
0	0	0
0	1	1
1	X	GND

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

SN74HC175NS (TI) (V_{CC} = +2 to +6V) FLAT PACKAGE

C-MOS D-TYPE FLIP-FLOP WITH RESET
– TOP VIEW –

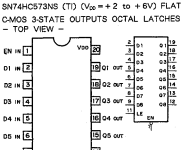


RD	CK	D	Q	$\overline{Q}$
0	X	X	0	1
1	↑	1	1	0
1	↑	0	0	1
1	0	X	Q0	$\overline{Q0}$

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
Q0 ; NO CHANGE
$\overline{Q0}$; NO CHANGE

SN74HC573NS (TI) (V_{CC} = +2 to +6V) FLAT PACKAGE

C-MOS 3-STATE OUTPUTS OCTAL LATCHES
– TOP VIEW –

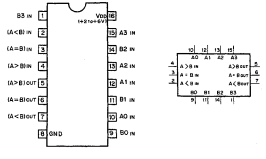


INPUTS			OUT
EN	LE	D	Q
0	1	1	1
0	1	0	0
0	0	X	Q0
1	X	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE
Q0 ; NO CHANGE

SN74HC85NS (TI) FLAT PACKAGE

C-MOS 4-BIT MAGNITUDE COMPARATOR
– TOP VIEW –

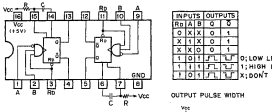


INPUTS									OUTPUTS		
DATA COMPARING						CASCADING					
	A3 , B3	A2 , B2	A1 , B1	A0 , B0		A<B	A=B	A>B	A<B	A=B	A>B
A>B	A3 > B3	X	X	X		X	X	X	0	0	1
	A3 = B3	A2 > B2	X	X							
	A3 = B3	A2 = B2	A1 > B1	X							
	A3 = B3	A2 = B2	A1 = B1	A0 > B0							
A=B	A3 = B3	A2 = B2	A1 = B1	A0 = B0	0	0	0	1	0	1	0
					0	0	1	0	0	1	0
					X	1	X	0	1	0	0
					1	0	0	1	0	0	1
					1	0	1	0	0	0	0
A<B	A3 = B3	A2 = B2	A1 = B1	A0 <B0							
	A3 < B3	A2 < B2	A1 < B1	X	X	X	X	1	0	0	
	A3 < B3	A2 < B2	X	X							
	A3 < B3	X	X	X							

0 ; LOW LEVEL 1 ; HIGH LEVEL X ; DON'T CARE

SN74LS02NS (TI) FLAT PACKAGE

TTL 2-INPUT POSITIVE-NOR GATE
– TOP VIEW –

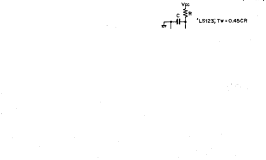


A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

SN74LS123NS (TI) FLAT PACKAGE

TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH DIRECT RESET
– TOP VIEW –



INPUTS			OUTPUTS	
Rd	A	B	Q	$\overline{Q}$
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⌐	⌐
1	1	↑	⌐	⌐
1	0	1	⌐	⌐

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

OUTPUT PULSE WIDTH

'123 ; Tw = 0.28 $\left(1+\frac{2}{R}\right)$ CR

'LS123 ; Tw = 0.33 $\left(1+\frac{2}{R}\right)$ CR

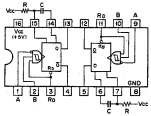
'123 ; Tw = 0.25 $\left(1+\frac{0.5}{R}\right)$ CR

'LS123 ; Tw = 0.28 $\left(1+\frac{0.7}{R}\right)$ CR

'LS123 ; Tw = 0.45CR

SN74LS221NS (TI) FLAT PACKAGE

TTL MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT
– TOP VIEW –



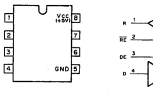
INPUTS			OUTPUTS	
Rx	A	B	Q	Q
0	X	X	0	1
X	1	X	0	1
X	X	0	0	1
1	0	↑	⎍	⎍
1	↓	1	⎍	⎍
1	0	↑	⎍	⎍

O; LOW LEVEL
1; HIGH LEVEL
X; DON'T CARE

OUTPUT PULSE WIDTH = 0.7CR

SN75176BP (TI)

TTL-DIFFERENTIAL BUS TRANSCEIVER
– TOP VIEW –



FUNCTION TABLE
– DRIVER –

INPUT	ENABLE	OUTPUT	
D	DE	A	B
1	1	1	0
0	1	0	1
X	0	HI-Z	HI-Z

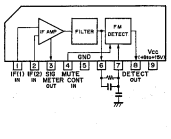
– RECEIVER –

DIFFERENTIAL INPUTS A–B	ENABLE RE	OUTPUT R
Vcc ≥ 0.2V	0	1
–0.2V < Vcc < 0.2V	0	?
Vcc <– 0.2V	0	0
X	1	HI-Z

1 ; HIGH LEVEL
0 ; LOW LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE
? ; INDETERMINATE

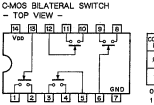
TA7303P (TOSHIBA)

FM IF AMPLIFIER/DETECTOR
– SIDE VIEW –



TC4016BFHB (TOSHIBA) FLAT PACKAGE

C-MOS BILATERAL SWITCH
– TOP VIEW –

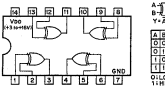


CONT IN	SW
0	OFF
1	ON

0; LOW LEVEL
1; HIGH LEVEL

TC4030BFHB (TOSHIBA) FLAT PACKAGE

C-MOS EXCLUSIVE OR GATE
– TOP VIEW –

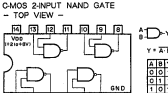


A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TC40H000F (TOSHIBA) FLAT PACKAGE

C-MOS 2-INPUT NAND GATE
– TOP VIEW –

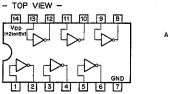


A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TC40H004F (TOSHIBA) FLAT PACKAGE

C-MOS INVERTER
– TOP VIEW –

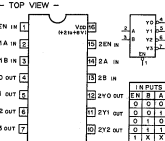


A	Y
1	0
0	1

0; LOW LEVEL
1; HIGH LEVEL

TC40H139F (TOSHIBA) FLAT PACKAGE

C-MOS 2-TO-4-LINE DECODER/DEMULTIPLXER
– TOP VIEW –



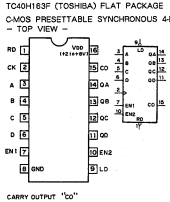
INPUTS			OUTPUTS			
EN	B	A	Y3	Y2	Y1	Y0
0	0	0	1	1	1	0
0	0	1	1	1	0	1
0	1	0	1	0	1	1
0	1	1	0	1	1	1
1	X	X	1	1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

TC40H163F (TOSHIBA) FLAT PACKAGE

CMOS PRESETTABLE SYNCHRONOUS 4-BIT BINARY COUNTER

– TOP VIEW –



MODE SELECTION				
CONT. INPUTS				MODE
RD	LD	EN1	EN2	
0	X	X	X	RESET (SYNCHRONOUS)
1	0	X	X	PRESET (SYNCHRONOUS)
1	1	0	X	NO COUNT
1	1	X	0	NO COUNT
1	1	1	1	COUNT

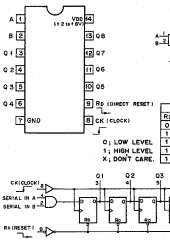
COUNT SEQUENCE					
COUNT	OUTPUTS				
	QD	QC	QB	QA	
0	0	0	0	0	
1	0	0	0	1	
2	0	0	1	0	
3	0	0	1	1	
:	:	:	:	:	
13	1	1	0	1	
14	1	1	1	0	
15	1	1	1	1	

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE

TC40H164F (TOSHIBA) FLAT PACKAGE

CMOS 8-BIT PARALLEL-OUT SERIAL SHIFT REGISTER

– TOP VIEW –



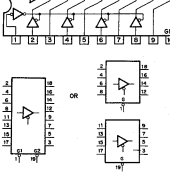
INPUTS				OUTPUTS			
Rd	CK	A	B	Q1	Q2	----	Q8
0	X	X	X	0	0	0	0
1	0	X	X	Q1	Q2	----	Q8
1	↑	1	1	1	Q1n	----	Q7n
1	↑	0	X	0	Q1n	----	Q7n
1	↑	X	0	0	Q1n	----	Q7n

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE,

TC40H244F (TOSHIBA) FLAT PACKAGE

CMOS BUS BUFFER WITH 3-STATE OUTPUTS

– TOP VIEW –



G	A	Y
0	0	0
0	1	1
1	X	HI-Z

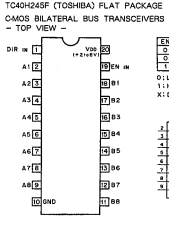
0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE
HI-Z : HIGH IMPEDANCE

NOTE :	
TYPE	Vcc
AC HC 40H	+2 to +6V
ACT HCT	+5V

TC40H245F (TOSHIBA) FLAT PACKAGE

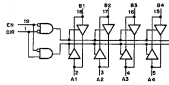
CMOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUT

– TOP VIEW –



EN	DIR	OPERATION
O	O	B to A
O	1	A to B
1	X	HI – Z

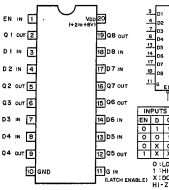
0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE.



TC40H373P (TOSHIBA)

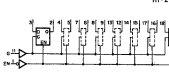
CMOS 3-STATE OUTPUTS OCTAL LATCHES

– TOP VIEW –



INPUTS			OUT
EN	D	G	Q
0	1	1	1
0	0	1	0
0	X	0	Qn
1	X	X	HI-Z

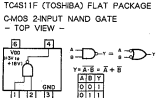
0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE
HI-Z : HIGH IMPEDANCE



TC4S11F (TOSHIBA) FLAT PACKAGE

CMOS 2-INPUT NAND GATE

– TOP VIEW –



A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0 : LOW LEVEL
1 : HIGH LEVEL

TC4S30F (TOSHIBA) FLAT PACKAGE

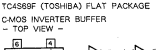
CMOS EXCLUSIVE OR GATE

– TOP VIEW –

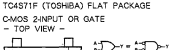
A	B	Y
0	0	0
0	1	1
1	0	1
1	1	0

0 : LOW LEVEL
1 : HIGH LEVEL

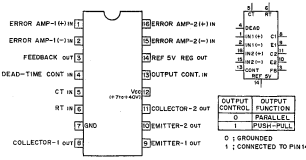
TC4S69F (TOSHIBA) FLAT PACKAGE
C-MOS INVERTER BUFFER
– TOP VIEW –



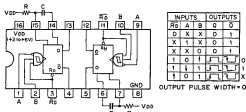
TC4S71F (TOSHIBA) FLAT PACKAGE
C-MOS 2-INPUT OR GATE
– TOP VIEW –



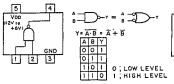
TL494CN (TI)
PWM POWER CONTROL
– TOP VIEW –



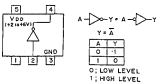
TC74HC221F (TOSHIBA) FLAT PACKAGE
C-MOS MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT
– TOP VIEW –


R
C
VDD
GND
A
B
Rx
Cx
Vss
INPUTS | OUTPUTS
RD | A | B | Q | Q
0 | X | X | 0 | 1
X | 1 | X | 0 | 1
X | X | 0 | 0 | 1
1 | 0 | ↑ | ⊓ | ⊔
1 | ↓ | 1 | ⊓ | ⊔
1 | 0 | ↓ | ⊓ | ⊔
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
OUTPUT PULSE WIDTH = 0.7CR

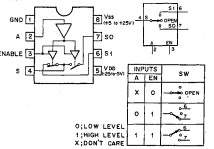
TC7S00F (TOSHIBA) FLAT PACKAGE
C-MOS 2-INPUT NAND GATE
– TOP VIEW –



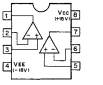
TC7S04F (TOSHIBA) FLAT PACKAGE
C-MOS INVERTER
– TOP VIEW –



TL607CPS (TI) FLAT PACKAGE
P-MOS ANALOG SWITCH
– TOP VIEW –

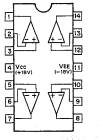


TL022CPS (TI) FLAT PACKAGE
OPERATIONAL AMPLIFIER
(DUAL LOW-POWER)
– TOP VIEW –

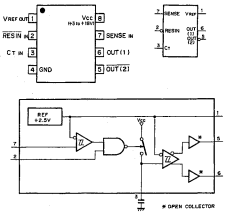


TL062ACP (TI)
TL062ACPS (TI) FLAT PACKAGE
TL062CPS (TI) FLAT PACKAGE
OPERATIONAL AMPLIFIER
(JFET INPUT)
– TOP VIEW –

TL064CNS (TI) FLAT PACKAGE
OPERATIONAL AMPLIFIER
(J FET-INPUT)
– TOP VIEW –

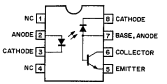


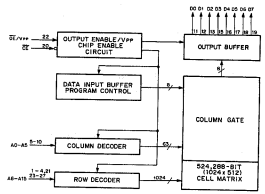
TL7705CPS-8 (TI) FLAT PACKAGE
POWER VOLTAGE SUPERVISOR
– TOP VIEW –



TLC272CPS (TI) FLAT PACKAGE
OPERATIONAL AMPLIFIER
– TOP VIEW –

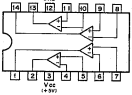
TLP651 (TOSHIBA)
PHOTO COUPLER
– TOP VIEW –



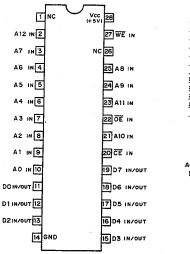


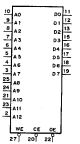
uPC311G2 (NEC) FLAT PACKAGE
VOLTAGE COMPARATOR
– TOP VIEW –

uPC339G2 (NEC) FLAT PACKAGE
COMPARATOR
– TOP VIEW –



uPD28C64C-20 (NEC) (ACCESS TIME = 200nS)
C-MOS 64K (8Kx8) ELECTRICALLY ERASABLE PROM
– TOP VIEW –

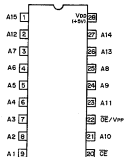




A0 – A12 ; ADDRESS INPUTS
D0 – D7 ; DATA INPUTS/OUTPUTS
WE ; WRITE ENABLE INPUT
CE ; CHIP ENABLE INPUT
OE ; OUTPUT ENABLE INPUT

uPC393G2 (NEC) FLAT PACKAGE
DUAL VOLTAGE COMPARATORS
– TOP VIEW –

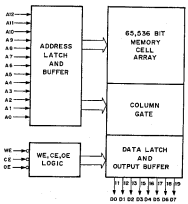
uPD27C512G-20 (NEC) (ACCESS TIME = 200nS) FLAT PACKAGE
C-MOS 512K(65,536x8 = 524,288)-BIT ONE TIME PROM
– TOP VIEW –



A0–A15; ADDRESS INPUTS
CE; CHIP ENABLE INPUT
O0–O7; DATA OUTPUTS
OE; OUTPUT ENABLE INPUT
Vpp; PROGRAM POWER SUPPLY

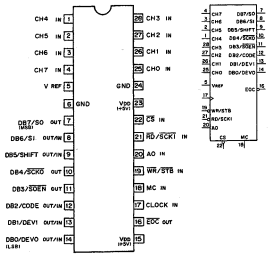
An	CE	OE / Vpp	VDD	Dn	FUNCTION
AIN	0	0	+5V	DOUT	READ
AIN	0	1	+5V	HI-Z	OUTPUT DISABLE
X	1	X	+5V	HI-Z	STANDBY
AIN	0	+ 12.5V	+6V	DIN	PGM
AIN	0	0	+6V	DOUT	PGM VERIFY
X	1	+ 12.5V	+6V	HI-Z	PGM INH

0; LOW LEVEL
1; HIGH LEVEL
HI-Z; HIGH IMPEDANCE
X; DON'T CARE



μPD7004C (NEC)

C-MOS 10-BIT SUCCESSIVE COMPARATOR TYPE A/D CONVERTER
– TOP VIEW –

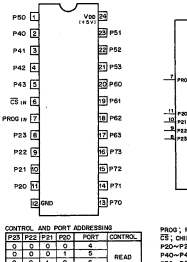


AO ; CONTROL ADDRESS INPUT
CH0~7 ; ANALOG INPUT
CODE ; CODE SELECT (2'S COMPLEMENT/ BINARY) INPUT
CS ; CHIP SELECT INPUT
DB0~7 ; DATA BUS INPUT/OUTPUT
DEVO, DEVI ; CLOCK RATE SELECT INPUT
EOC ; CONVERSION ENDING SIGNAL OUTPUT
MC ; MODE SELECT INPUT
RD ; READ SIGNAL INPUT

SCKI ; SERIAL CLOCK INPUT
SCKO ; SERIAL CLOCK OUTPUT
SHIFT ; SHIFT SELECT (LSB FIRST/ MSB FIRST)
SI ; SERIAL INPUT
SO ; SERIAL OUTPUT
SOEN ; SERIAL OUTPUT ENABLE OUTPUT
STB ; ADDRESS WRITE STROBE SIGNAL INPUT
WR ; WRITE SIGNAL INPUT

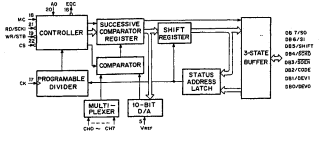
μPD82C43G (NEC) FLAT PACKAGE

C-MOS I/O PORT EXPANDER
– TOP VIEW –



CONTROL AND PORT ADDRESSING					
P23	P22	P21	P20	PORT	CONTROL
0	0	0	0	4	READ
0	0	0	1	5	
0	0	1	0	6	
0	0	1	1	7	
0	1	0	0	4	WRITE
0	1	0	1	5	
0	1	1	0	6	
0	1	1	1	7	
1	0	0	0	4	OR
1	0	0	1	5	
1	0	1	0	6	
1	0	1	1	7	
1	1	0	0	4	AND
1	1	0	1	5	
1	1	1	0	6	
1	1	1	1	7	

PROG ; PROGRAM PULSE INPUT
CS ; CHIP SELECT INPUT
P20~P23 ; I/O PORT 2 (FOR CPU)
P40~P43 ; I/O PORT 4
P50~P53 ; I/O PORT 5
P60~P63 ; I/O PORT 6
P70~P73 ; I/O PORT 7



MC	MODE
0	SERIAL
1	PARALLEL

PARALLEL MODE					
CS	WR	RD	AO	MODE
1	X	X	X	HIGH IMPEDANCE
0	1	1	X	HIGH IMPEDANCE
0	0	1	0	#1 ANALOG CHANNEL SELECT
0	0	1	1	#2 CODE SELECT/ #3 CLOCK RATE SELECT
0	1	0	0	#4 LOW-BYTE DATA OUTPUT
0	1	0	1	#4 HIGH-BYTE DATA OUTPUT
0	0	0	X	INHIBIT

0 ; LOW LEVEL X : DON'T CARE
1 ; HIGH LEVEL

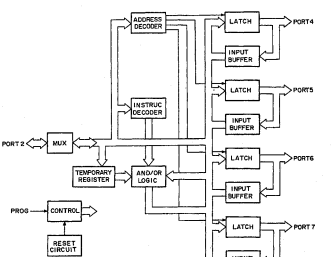
#1 ANALOG CHANNEL			
SELE	SEL1	SEL0	MPX CHAN
0	0	0	CH0
0	0	1	CH1
0	1	0	CH2
0	1	1	CH3
1	0	0	CH4
1	0	1	CH5
1	1	0	CH6
1	1	1	CH7

#2 CODE SELECT	
CODE	CODE SELECT
0	BINARY DATA
1	2'S COMPLEMENT DATA

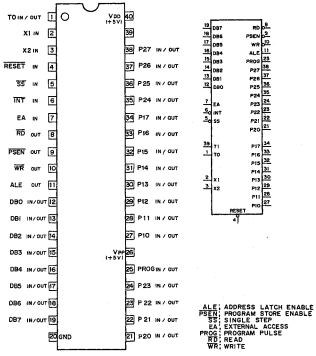
#3 CLOCK RATE SELECT		
DEV1	DEV 0	CLOCK RATE
0	0	1
0	1	1/2
1	0	1/4
1	1	1/8

#4 LOW/HIGH-BYTE DATA

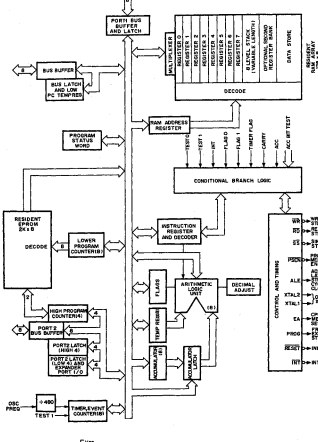
	DB7	DB 6	DB5	DB4	DB3	DB2	DB1	DB 0
HIGH-BYTE	MSB	2ND	3RD	4TH	5TH	6TH	7TH	8TH
LOW- BYTE	9TH	0	0	0	0	0	0	0



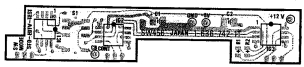
uPD8749HD (NEC)
N-MOS 8-BIT MICROPROCESSOR
– TOP VIEW –



ALE: ADDRESS LATCH ENABLE
PSEN: PROGRAM STORE ENABLE
SS: SINGLE STEP
EA: EXTERNAL ACCESS
PROG: PROGRAM PULSE
RD: READ
WR: WRITE



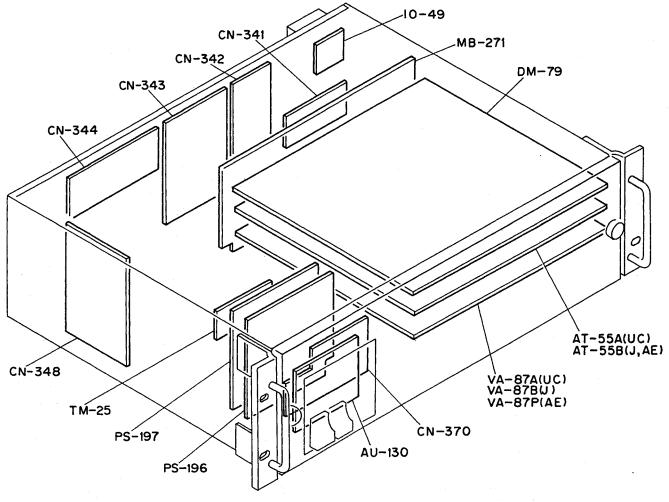
SW-456 BOARD



1-636-742-11 COMPONENT SIDE

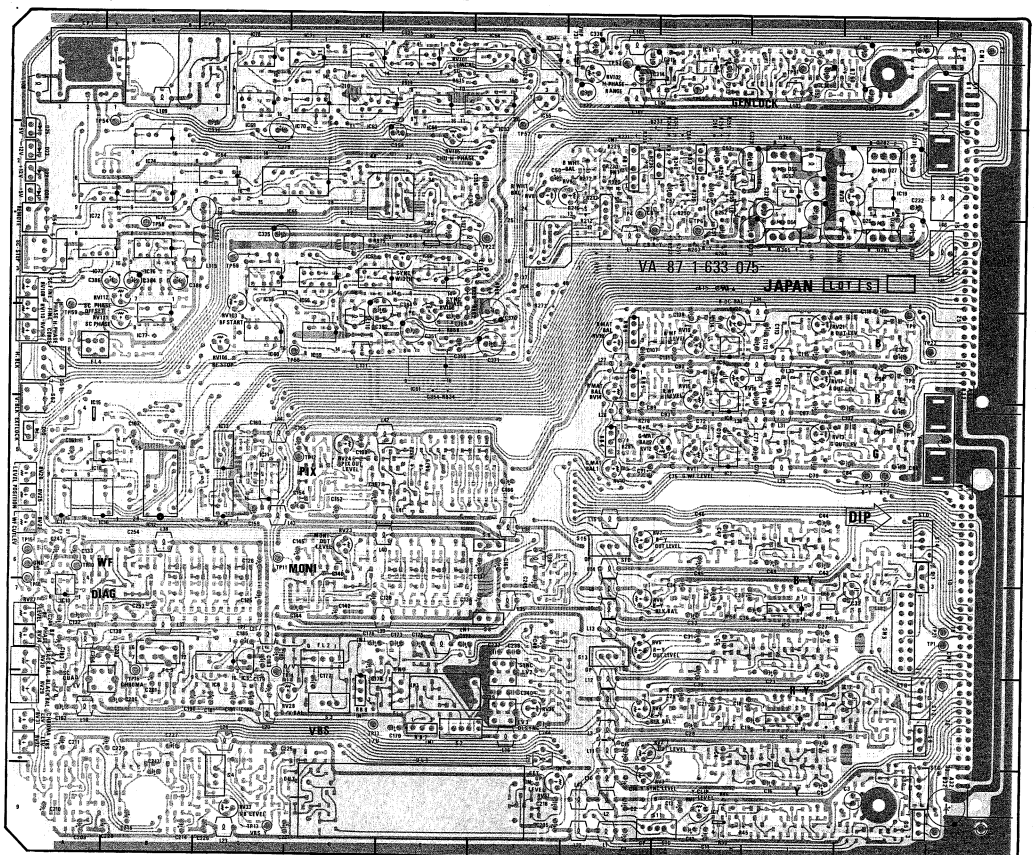
SECTION C
SCHEMATIC DIAGRAMS AND BOARD ILLUSTRATION

BOARD LAYOUT

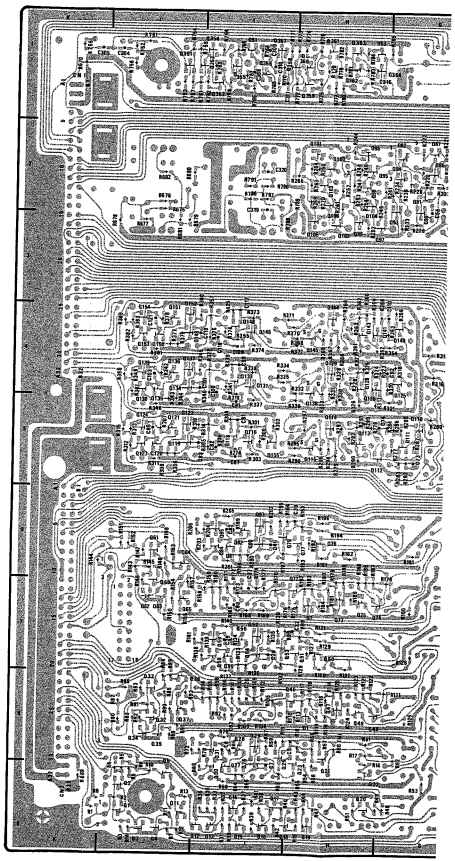


VA-87A/87B/87P BOARD

Serial No. 10001 – 10120, 10201 – 10335 (UC)
30001 – 30115, 30201 – 30205 (J)
40001 – 40125, 40201 – 40325 (AE)

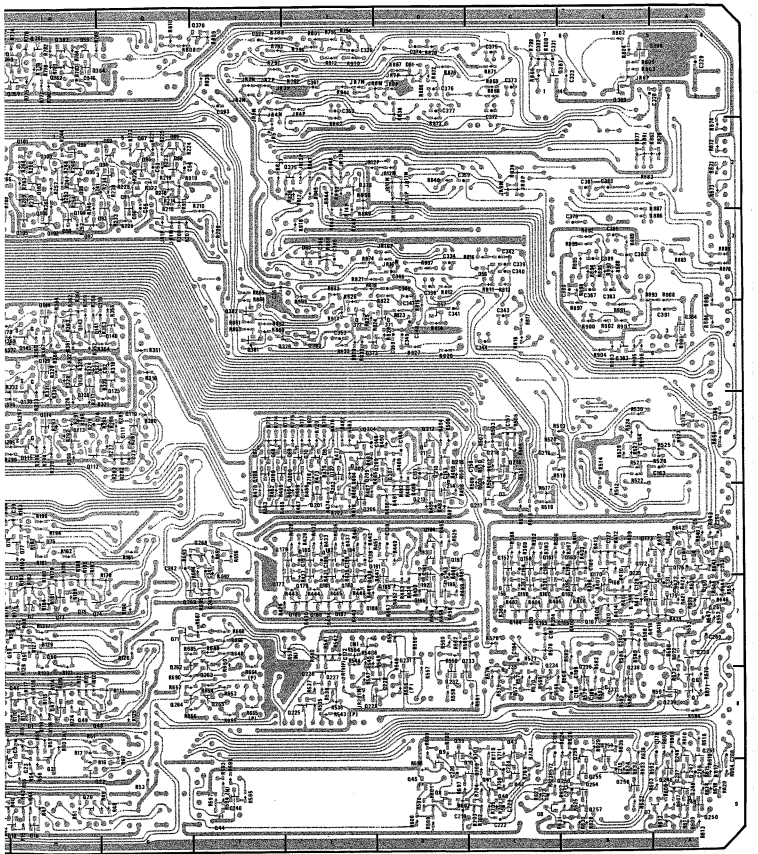


C-5 (a)



1-633-075-12, 13 COMPONENT SIDE

C-6 (a)



1-633-075-12, 13 SOLDERING SIDE

C-7 (a)

VA-87A/87B/87P 1-633-075-12, 13

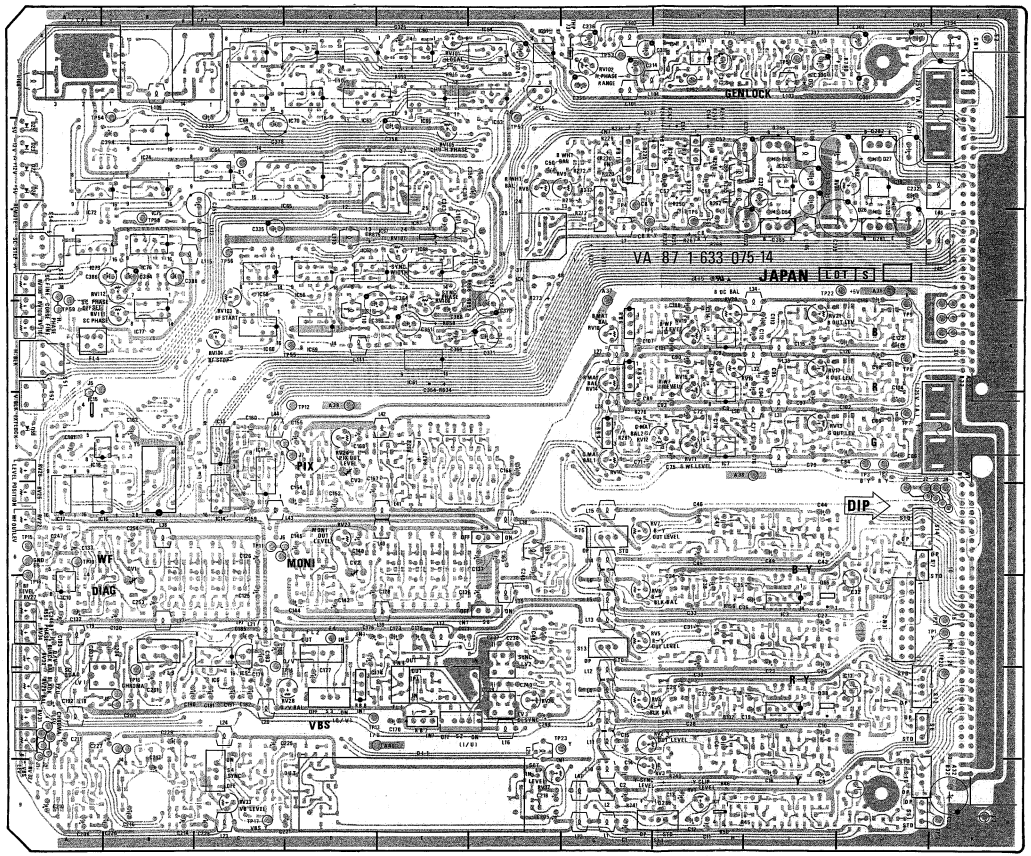
CN1	K-1	IC56	D-3	Q43	C-8	Q122	J-5	Q200	E-5	Q364	G-1	RV108	A-3
CN2	K-7	IC57	F-1	Q45	D-9	Q123	J-5	Q201	E-6	Q365	I-3	RV109	A-4
CN3	J-7	IC58	C-3	Q46	H-8	Q124	J-5	Q202	E-6	Q366	I-2	RV110	A-4
		IC59	D-4	Q47	H-8	Q125	G-4	Q203	E-5	Q367	B-1	RV111	A-4
CP1	A-1	IC60	C-4	Q48	H-8	Q126	H-4	Q204	E-5	Q368	A-1		
CP2	C-1	IC61	E-4	Q49	H-8	Q127	E-5	Q205	E-5	Q369	B-1	S1	G-2
		IC62	D-3	Q50	H-7	Q128	H-4	Q206	E-6	Q370	F-1	S2	E-8
DL1	E-8	IC63	D-2	Q51	H-7	Q129	H-4	Q207	D-5	Q371	D-4	S3	D-8
		IC64	C-2	Q53	H-7	Q130	H-5	Q209	D-5	Q372	E-4	S4	C-9
D1	H-8	IC65	D-2	Q54	I-7	Q131	I-4	Q210	D-5	Q373	E-4	S5	J-9
D2	H-7	IC66	E-2	Q55	I-7	Q133	I-4	Q211	D-5	Q375	E-2	S6	K-8
D3	C-6	IC67	E-3	Q56	I-7	Q134	J-4	Q212	D-5	Q376	E-2	S7	K-6
D4	A-6	IC68	E-3	Q57	I-7	Q135	J-5	Q213	D-6	Q378	A-5	S8	F-7
D5	A-6	IC69	C-2	Q58	I-7	Q136	J-4	Q214	D-6	Q379	E-4	S9	F-6
D6	A-6	IC70	D-2	Q59	I-7	Q137	J-4	Q215	D-5	Q380	E-4	S10	J-9
D7	B-9	IC71	D-1	Q60	J-7	Q138	J-5	Q216	C-5	Q381	F-4	S11	H-9
D8	C-9	IC72	A-3	Q61	J-6	Q139	J-4	Q217	C-6	Q382	F-4	S12	K-8
D9	E-5	IC73	A-3	Q62	J-7	Q140	G-4	Q218	C-5	Q383	B-4	S13	G-7
D22	A-2	IC74	B-2	Q63	J-7	Q141	H-4	Q219	C-5	Q384	A-4	S14	K-6
D23	A-2	IC75	B-3	Q64	J-6	Q143	H-4	Q220	B-6			S15	G-6
D24	A-2	IC76	B-3	Q65	J-7	Q144	H-4	Q225	E-8	RB1	G-2	S51	A-4
D25	A-2	IC77	B-4	Q66	I-7	Q145	H-4	Q226	E-8	RB2	H-2	S52	A-5
D26	J-3	IC78	C-1	Q67	F-5	Q146	I-4	Q227	E-8	RB3	H-2	S53	A-3
D27	J-2	IC80	E-1	Q68	F-5	Q148	I-4	Q228	D-8	RB4	G-5	S54	A-3
D28	J-3	IC82	D-1	Q69	E-5	Q149	J-4	Q229	E-8	RB5	G-4		
D51	I-1	IC83	E-3	Q70	E-5	Q150	J-4	Q230	A-7	RB6	G-4	THP731	G-1
D52	I-1			Q71	G-7	Q151	J-4	Q231	D-7	RB7	E-8		
D53	H-1	LV1	A-8	Q72	H-6	Q152	J-4	Q232	D-8	RB8	D-8	TP1	K-7
D54	I-3	LV2	F-7	Q73	H-7	Q153	J-4	Q233	D-7			TP2	J-5
D55	I-2	LV3	F-8	Q74	H-7	Q154	J-4	Q234	C-7	RV1	H-9	TP3	J-5
D56	C-3			Q75	H-7	Q155	I-5	Q235	C-7	RV2	H-8	TP4	G-2
D57	A-4	Q1	J-9	Q76	H-6	Q156	C-7	Q236	B-7	RV3	H-9	TP5	G-3
D59	A-5	Q2	J-9	Q77	H-6	Q157	C-6	Q237	B-8	RV4	H-8	TP6	H-3
D60	E-3	Q3	J-9	Q79	H-6	Q158	C-7	Q238	B-7	RV5	H-7	TP7	J-5
D61	D-1	Q4	J-9	Q80	I-6	Q159	C-6	Q239	A-8	RV6	H-7	TP8	J-4
		Q5	J-9	Q81	I-6	Q160	C-7	Q240	F-9	RV7	H-6	TP9	J-4
E2	K-1	Q6	A-8	Q82	I-6	Q161	C-6	Q245	A-9	RV8	F-2	TP10	A-6
E3	K-9	Q7	A-8	Q83	I-6	Q162	B-7	Q246	A-9	RV9	F-2	TP11	C-6
E5	A-6	Q8	D-9	Q84	I-6	Q163	B-6	Q247	A-9	RV10	G-5	TP12	D-5
		Q9	D-8	Q85	I-6	Q164	C-7	Q248	A-8	RV11	H-5	TP13	D-8
FL1	E-8	Q10	C-9	Q86	G-2	Q165	C-7	Q250	A-9	RV12	G-5	TP14	D-8
FL2	D-7	Q11	J-9	Q87	G-2	Q166	B-7	Q251	A-8	RV13	I-5	TP15	A-6
FL3	B-7	Q12	I-9	Q88	G-2	Q167	B-7	Q253	B-9	RV14	G-4	TP16	B-8
FL4	A-4	Q13	I-9	Q89	G-2	Q168	B-7	Q254	B-9	RV15	H-4	TP17	C-9
		Q14	I-9	Q90	G-3	Q170	B-6	Q255	B-9	RV16	I-4	TP18	A-7
F1	J-5	Q15	I-9	Q91	G-2	Q171	A-7	Q256	B-8	RV17	I-4	TP19	K-9
F2	J-1	Q16	I-9	Q92	G-2	Q172	B-6	Q257	B-9	RV18	G-4	TP20	K-7
		Q17	I-9	Q93	G-3	Q173	B-6	Q258	B-9	RV19	H-4	TP21	K-7
IC1	H-9	Q18	H-9	Q94	G-2	Q175	A-7	Q259	B-8	RV20	H-3	TP22	J-4
IC2	I-8	Q19	H-9	Q95	H-2	Q176	A-6	Q260	A-7	RV21	I-4	TP51	I-1
IC3	I-7	Q20	H-9	Q96	H-2	Q177	F-7	Q261	A-7	RV22	A-6	TP52	H-1
IC4	F-3	Q21	H-9	Q97	H-3	Q178	F-6	Q262	G-7	RV23	D-6	TP53	G-1
IC5	C-8	Q22	H-9	Q98	H-2	Q179	E-7	Q263	F-8	RV24	D-5	TP54	A-1
IC6	C-8	Q23	H-9	Q99	H-3	Q180	E-6	Q264	G-8	RV25	A-6	TP55	D-4
IC7	H-5	Q25	I-9	Q100	H-2	Q181	E-7	Q265	F-8	RV26	A-5	TP56	C-3
IC8	H-5	Q26	I-9	Q101	H-2	Q182	E-6	Q268	F-6	RV27	A-7	TP57	F-2
IC9	H-4	Q27	I-9	Q102	H-3	Q183	E-7	Q269	G-7	RV28	D-8	TP58	B-3
IC10	A-7	Q28	I-8	Q103	H-2	Q184	E-6	Q281	J-3	RV29	A-8	TP59	A-4
IC11	B-5	Q29	I-8	Q104	H-2	Q185	E-7	Q282	J-2	RV30	E-7		
IC12	B-6	Q30	I-9	Q105	H-3	Q186	E-7	Q351	J-1	RV31	A-8		
IC13	B-5	Q31	I-8	Q106	H-2	Q187	E-7	Q352	I-1	RV32	A-8		
IC14	C-6	Q32	J-8	Q110	G-5	Q188	E-7	Q353	I-1	RV33	C-9		
IC15	A-5	Q33	J-8	Q111	G-5	Q189	D-7	Q354	I-1	RV34	A-7		
IC16	A-6	Q34	J-8	Q112	H-5	Q191	E-6	Q355	I-1	RV35	J-2		
IC17	A-6	Q35	J-8	Q113	H-5	Q192	D-7	Q356	I-1	RV36	F-8		
IC18	A-5	Q36	I-8	Q114	H-5	Q193	D-6	Q357	I-1	RV101	E-1		
IC19	J-2	Q37	J-8	Q115	H-5	Q194	D-6	Q358	I-1	RV102	G-1		
IC51	H-1	Q38	I-8	Q116	I-5	Q195	D-7	Q359	H-1	RV103	C-4		
IC52	I-2	Q39	D-8	Q118	I-5	Q196	D-7	Q360	H-1	RV104	C-4		
IC53	F-2	Q40	C-9	Q119	J-5	Q197	D-6	Q361	H-1	RV105	E-2		
IC54	F-1	Q41	C-9	Q120	J-5	Q198	F-5	Q362	H-1	RV106	E-3		
IC55	F-1	Q42	C-9	Q121	J-5	Q199	F-5	Q363	H-1	RV107	E-3		

C-8 (a)

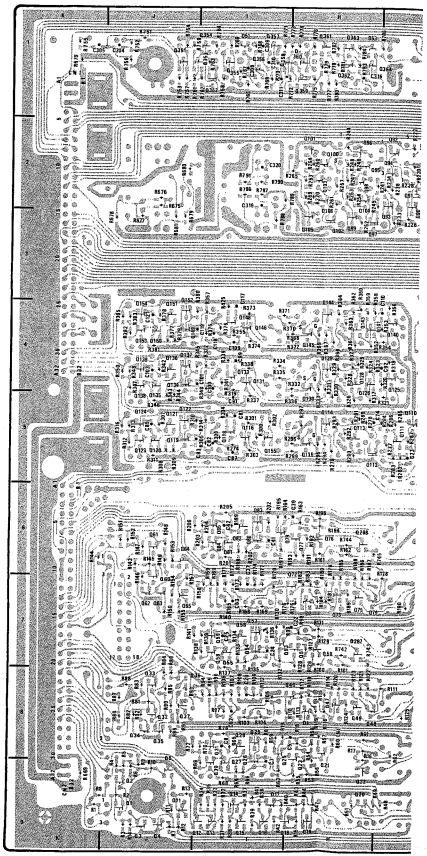
CCU-370/P

VA-87A/87B/87P BOARD

Serial No.		
10401	–	(UC)
30301	–	(J)
40401	–	(AE)

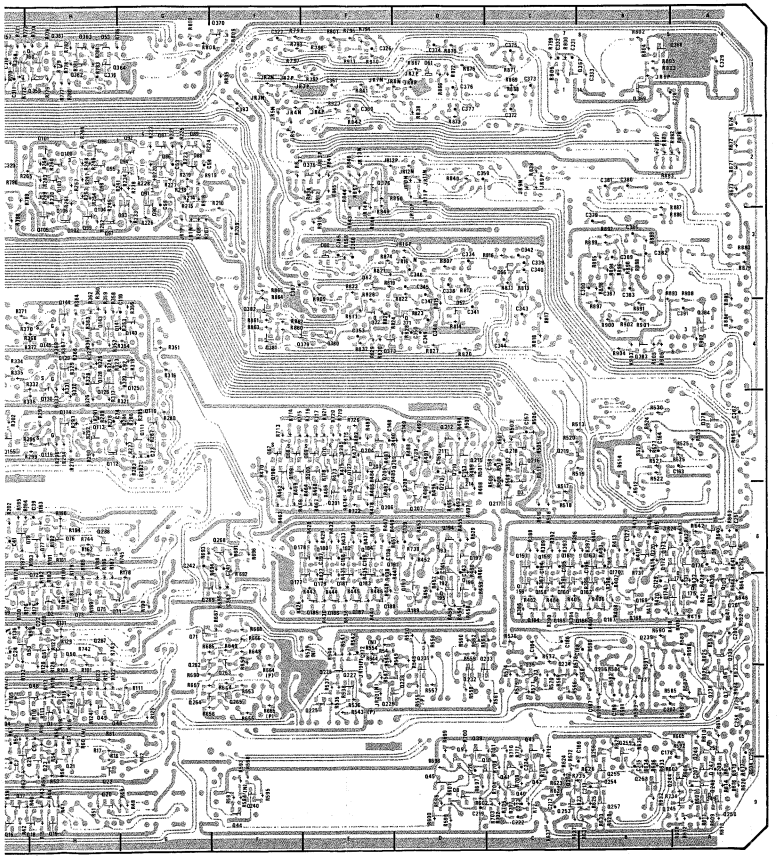


C-5 (b)



C-6 (b)

1-633-075-14 COMPONENT SIDE



1-633-075-14 SOLDERING SIDE

C-7 (b)

VA-87A/87B/87P 1-633-075-14

CN1	K-1	IC52	I-2	Q42	C-9	Q124	J-5	Q203	E-5	Q362	H-1	RV109	A-4		
CN2	K-7	IC53	F-2	Q43	C-8	Q125	G-4	Q204	E-5	Q363	H-1	RV110	A-4		
CN3	J-7	IC54	F-1	Q45	D-9	Q126	H-4	Q205	E-5	Q364	G-1	RV111	A-4		
		IC55	F-1	Q46	H-8	Q127	E-5	Q206	E-6	Q365	I-3				
CP1	A-1	IC56	D-3	Q47	H-8	Q128	H-4	Q207	D-6	Q366	I-2	S1	G-2		
CP2	C-1	IC57	F-1	Q48	H-8	Q129	H-4	Q208	D-8	Q367	B-1	S2	E-8		
		IC58	C-3	Q49	H-8	Q130	H-5	Q209	D-5	Q368	A-1	S3	D-8		
CV1	B-6	IC59	D-4	Q50	H-7	Q131	I-4	Q210	D-5	Q369	B-1	S4	C-9		
CV2	D-6	IC60	C-4	Q51	H-7	Q133	I-4	Q211	D-5	Q370	F-1	S5	J-9		
CV3	D-5	IC61	E-4	Q53	H-7	Q134	J-4	Q212	D-5	Q371	D-4	S6	K-8		
		IC62	D-3	Q54	I-7	Q135	J-5	Q213	D-6	Q372	E-4	S7	K-6		
DL1	E-8	IC63	D-2	Q55	I-7	Q136	J-4	Q214	D-6	Q373	E-4	S8	F-7		
		IC64	C-2	Q56	I-7	Q137	J-4	Q215	D-5	Q375	E-2	S9	F-6		
D1	H-8	IC65	D-2	Q57	I-7	Q138	J-5	Q216	C-5	Q376	E-2	S10	J-9		
D2	H-7	IC66	E-2	Q58	I-7	Q139	J-4	Q217	C-6	Q378	A-5	S11	H-9		
D3	C-6	IC67	E-3	Q59	I-7	Q140	J-4	Q218	C-5	Q379	E-4	S12	K-8		
D4	A-6	IC68	E-3	Q60	J-7	Q141	H-4	Q219	C-5	Q380	E-4	S13	G-7		
D5	A-6	JC69	C-2	Q61	J-6	Q143	H-4	Q220	B-6	Q381	F-4	S14	K-6		
D6	A-6	IC70	D-2	Q62	J-7	Q144	H-4	Q225	E-8	Q382	F-4	S15	G-6		
D7	B-9	IC71	D-1	Q63	J-7	Q145	H-4	Q226	E-8	Q383	B-4	S51	A-4		
D8	C-9	IC72	A-3	Q64	J-6	Q146	I-4	Q227	E-8	Q384	A-4	S52	A-5		
D9	E-5	IC73	A-3	Q65	J-7	Q148	I-4	Q228	D-8			S53	A-3		
D22	A-2	IC74	B-2	Q66	I-7	Q149	J-4	Q229	E-8	RB1	G-2	S54	A-3		
D23	A-2	IC75	B-3	Q67	F-5	Q150	J-4	Q230	A-7	RB2	H-2				
D24	A-2	IC76	B-3	Q68	F-5	Q151	J-4	Q231	D-7	RB3	H-2	THP731	G-1		
D25	A-2	IC77	B-4	Q69	E-5	Q152	J-4	Q232	D-8	RB4	G-5				
D26	J-3	IC78	C-1	Q70	E-5	Q153	J-4	Q233	D-7	RB5	G-4	TP1	K-7		
D27	J-2	IC80	E-1	Q71	G-7	Q154	J-4	Q234	C-7	RB6	G-4	TP2	J-5		
D28	J-3	IC82	D-1	Q72	H-6	Q155	I-5	Q235	C-7	RB7	E-8	TP3	J-5		
D51	I-1	IC83	E-3	Q73	H-7	Q156	C-7	Q236	B-7	RB8	D-8	TP4	G-2		
D52	I-1			Q74	H-7	Q157	C-6	Q237	B-8			TP5	G-3		
D53	H-1	LV1	A-8	Q75	H-7	Q158	C-7	Q238	A-8	RV1	H-9	TP6	H-3		
D54	I-3	LV2	F-7	Q76	H-6	Q159	C-6	Q239	A-8	RV2	H-8	TP7	J-5		
D55	I-2	LV3	F-8	Q77	H-6	Q160	C-7	Q240	F-9	RV3	H-9	TP8	J-4		
D56	C-3			Q79	H-6	Q161	C-6	Q245	A-9	RV4	H-8	TP9	J-4		
D57	D-4	Q1	J-9	Q80	I-6	Q162	B-7	Q246	A-9	RV5	H-7	TP10	A-6		
D59	A-5	Q2	J-9	Q81	I-6	Q163	B-6	Q247	A-9	RV6	H-7	TP11	C-6		
D60	E-3	Q3	J-9	Q82	I-6	Q164	C-7	Q248	A-8	RV7	H-6	TP12	D-5		
D61	D-1	Q4	J-9	Q83	I-6	Q165	C-7	Q249	A-9	RV8	F-2	TP13	D-8		
D62	F-3	Q5	J-9	Q84	I-6	Q166	B-7	Q250	A-9	RV9	F-2	TP14	D-8		
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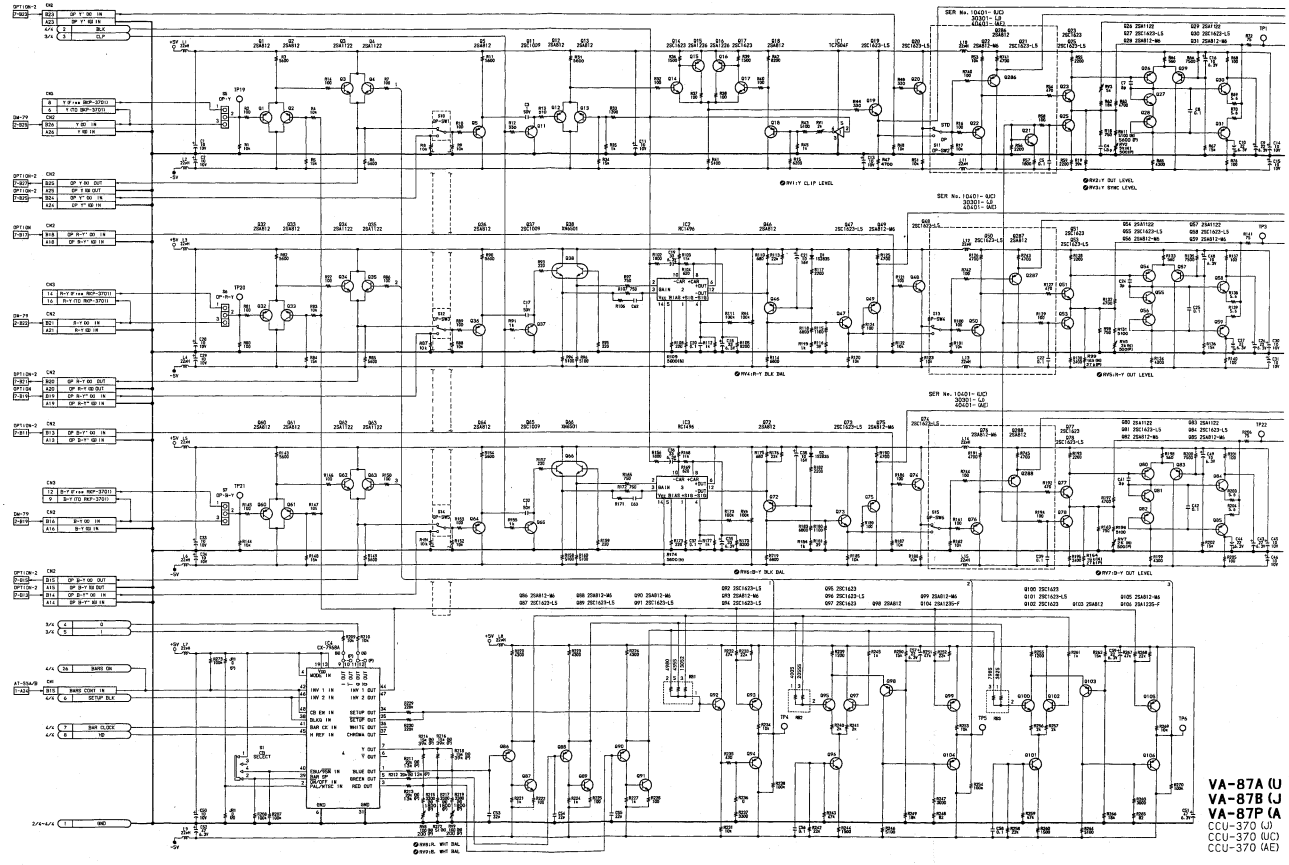
E1	C-2	Q7	A-8	Q86	G-2	Q168	B-7	Q252	C-9	RV11	H-5	TP16	B-8		
E2	K-1	Q8	D-9	Q87	G-2	Q169	B-7	Q253	C-9	RV12	G-5	TP17	C-9		
E3	K-9	Q9	D-8	Q88	G-2	Q170	B-6	Q254	B-9	RV13	I-5	TP18	A-7		
E4	D-7	Q10	C-9	Q89	G-2	Q171	A-7	Q255	B-9	RV14	G-4	TP19	K-9		
E5	A-6	Q11	J-9	Q90	G-3	Q172	B-6	Q256	B-8	RV15	H-4	TP20	K-7		
		Q12	I-9	Q91	G-2	Q173	B-6	Q257	B-9	RV16	I-4	TP21	K-7		
FL1	E-8	Q13	I-9	Q92	G-2	Q174	A-7	Q258	B-9	RV17	I-4	TP22	I-3		
FL2	D-7	Q14	I-9	Q93	G-3	Q176	A-6	Q259	B-8	RV18	G-4	TP23	F-8		
FL3	B-7	Q15	I-9	Q94	G-2	Q177	F-7	Q260	A-7	RV19	H-4	TP51	I-1		
FL4	A-4	Q16	I-9	Q95	H-2	Q178	F-6	Q261	A-7	RV20	H-3	TP52	H-1		
		Q17	I-9	Q96	H-2	Q179	E-7	Q262	G-7	RV21	I-4	TP53	G-1		
F1	J-5	Q18	H-9	Q97	H-3	Q180	E-6	Q263	F-8	RV22	A-6	TP54	A-1		
F2	J-1	Q19	H-9	Q98	H-2	Q181	E-7	Q264	G-8	RV23	D-6	TP55	D-4		
		Q20	H-9	Q99	H-3	Q182	E-6	Q265	F-8	RV24	D-5	TP56	C-3		
IC1	H-9	Q21	I-9	Q100	H-2	Q183	E-7	Q268	F-6	RV25	A-6	TP57	F-2		
IC2	I-8	Q22	H-9	Q101	H-2	Q184	E-6	Q269	G-7	RV26	A-5	TP58	B-3		
IC3	I-7	Q23	H-9	Q102	H-3	Q185	E-7	Q281	J-3	RV27	A-7	TP59	A-4		
IC4	F-3	Q25	I-9	Q103	H-2	Q186	E-7	Q282	J-2	RV28	D-8				
IC5	C-8	Q26	I-9	Q104	H-2	Q187	E-7	Q285	E-5	RV29	A-8				
IC6	C-6	Q27	I-9	Q105	H-3	Q188	E-7	Q286	G-9	RV30	A-7				
IC7	H-5	Q28	I-8	Q106	H-2	Q189	D-7	Q287	H-7	RV31	A-8				
IC8	H-5	Q29	I-8	Q110	G-5	Q190	D-7	Q288	H-6	RV32	A-9				
IC9	H-4	Q30	I-9	Q111	G-5	Q191	E-6	Q351	J-1	RV33	C-9				
IC10	A-7	Q31	I-8	Q112	H-5	Q192	D-7	Q352	I-1	RV34	A-7				
IC11	B-5	Q32	J-8	Q113	H-5	Q193	D-6	Q353	I-1	RV35	J-2				
IC12	B-6	Q33	J-8	Q114	H-5	Q194	D-6	Q354	I-1	RV36	F-8				
IC13	B-5	Q34	J-8	Q115	H-5	Q195	D-7	Q355	I-1	RV101	E-1				
IC14	C-6	Q35	J-8	Q116	I-5	Q196	D-7	Q356	I-1	RV102	G-1				
IC15	A-5	Q36	I-8	Q118	I-5	Q197	D-6	Q357	I-1	RV103	C-4				
IC16	A-6	Q37	J-8	Q119	J-5	Q198	F-5	Q358	I-1	RV104	C-4				
IC17	A-6	Q38	I-8	Q120	J-5	Q199	F-5	Q359	H-1	RV105	E-2				
IC18	A-5	Q39	D-8	Q121	J-5	Q200	E-5	Q360	H-1	RV106	E-3				
IC19	J-2	Q40	C-9	Q122	J-5	Q201	E-6	Q361	H-1	RV107	E-3				
IC51	H-1	Q41	C-9	Q123	J-5	Q202	E-6			RV108	A-3				

C-8 (b)

CCU-370/P

VA-87A/87B/87P (1/4) BOARD



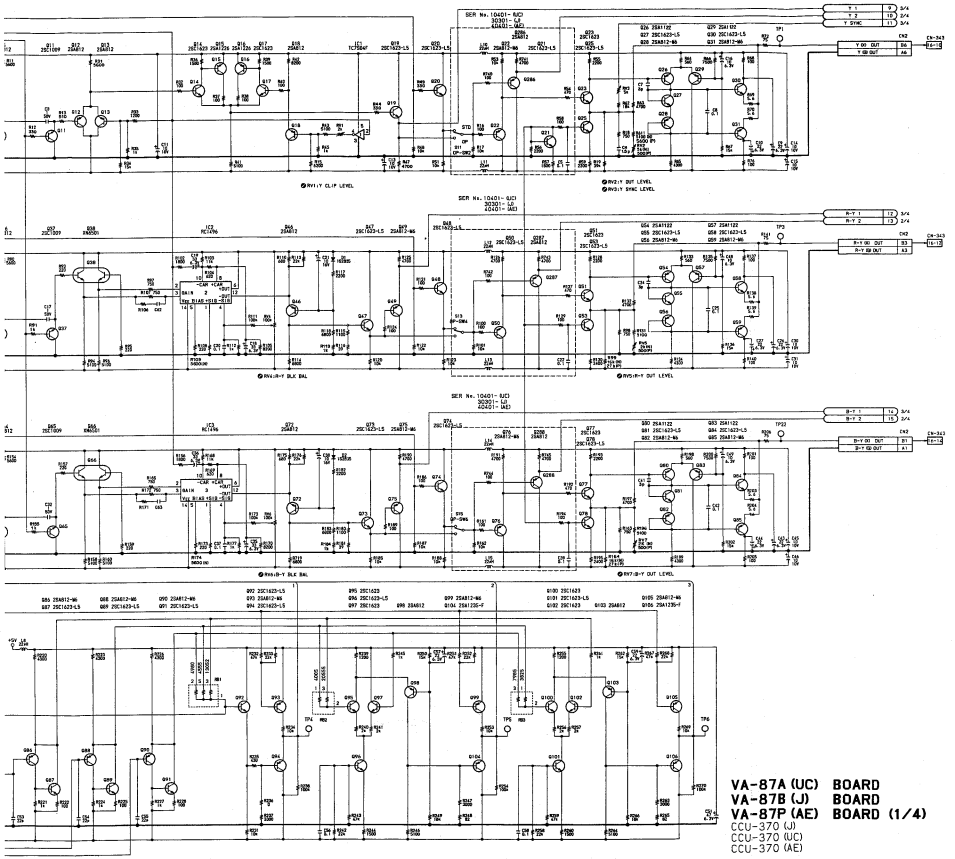
VA-87A (U
VA-87B (J
VA-87P (A
CCU-370 (J)
CCU-370 (UC)
CCU-370 (AE)

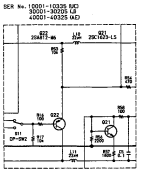
CCU-370/P

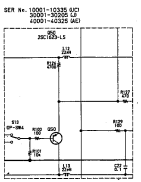
C-9 C-10

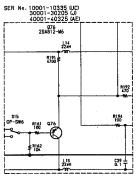
A | B | C | D | E | F | G | H |

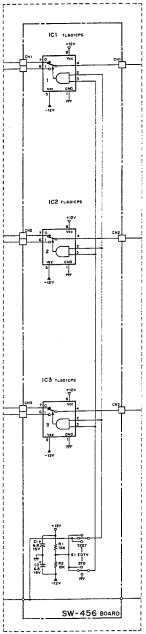
VA-87A/87B/87P (1/4)











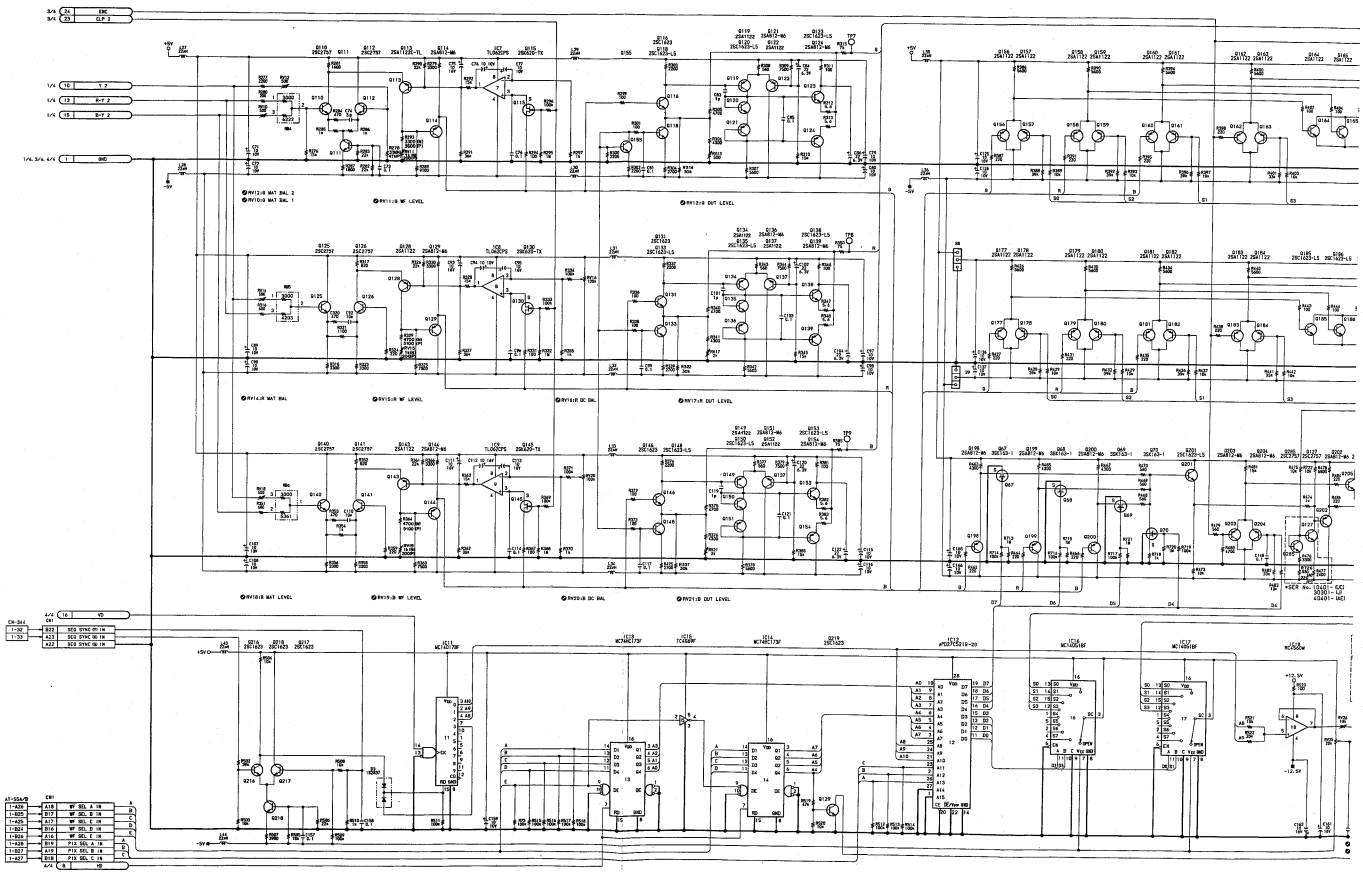
VA-87A (UC) BOARD
VA-87B (J) BOARD
VA-87P (AE) BOARD (1/4)
CCU-370 (J)
CCU-370 (UC)
CCU-370 (AE)

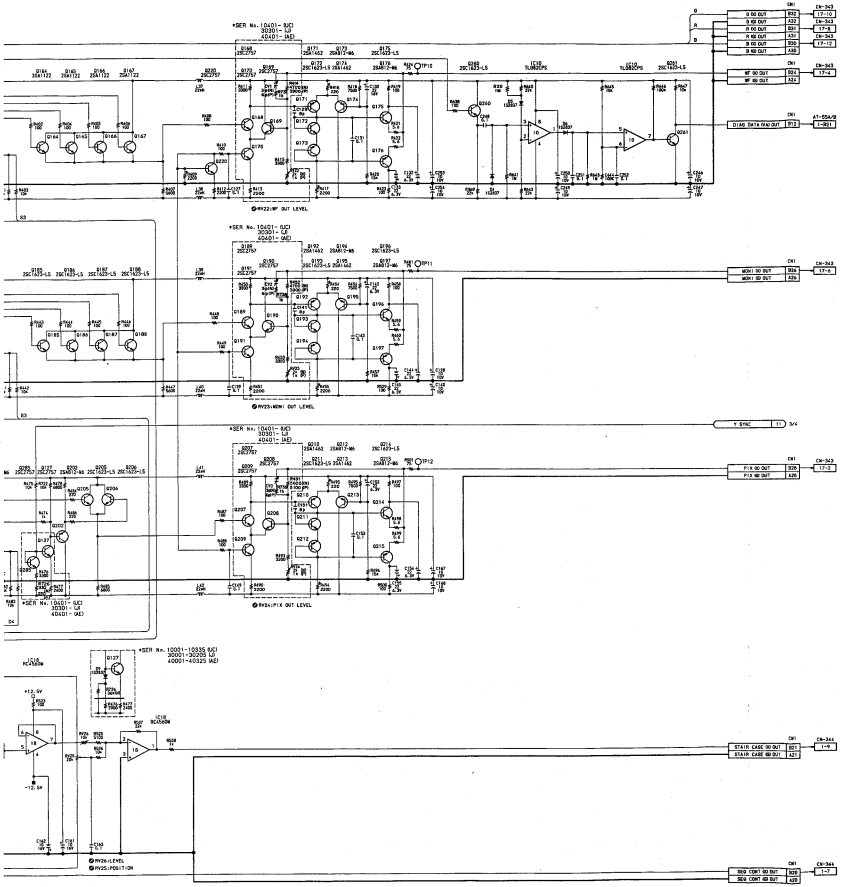
C-10

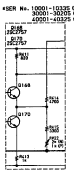
C-11

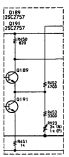
B-CCU370-VA87M#1

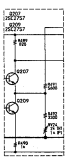
VA-87A/87B/87P (2/4) BOARD









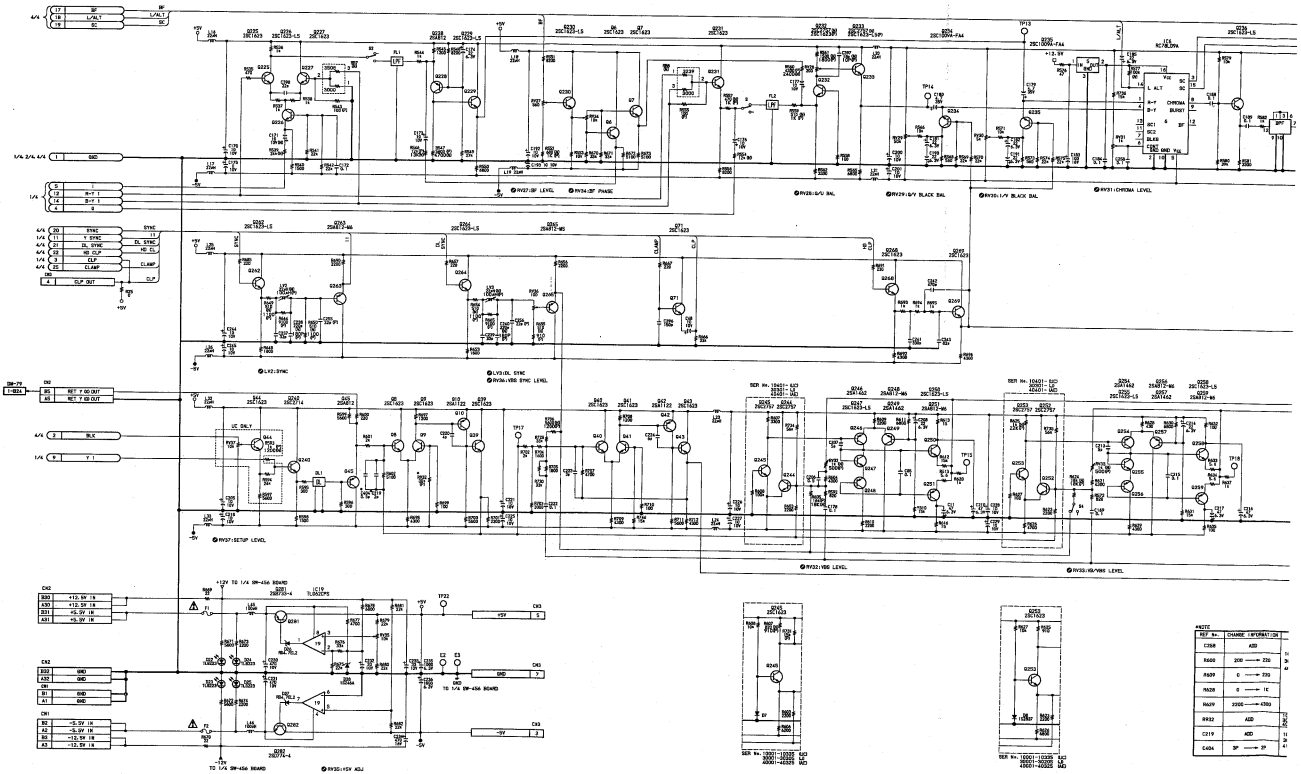


*NOTE

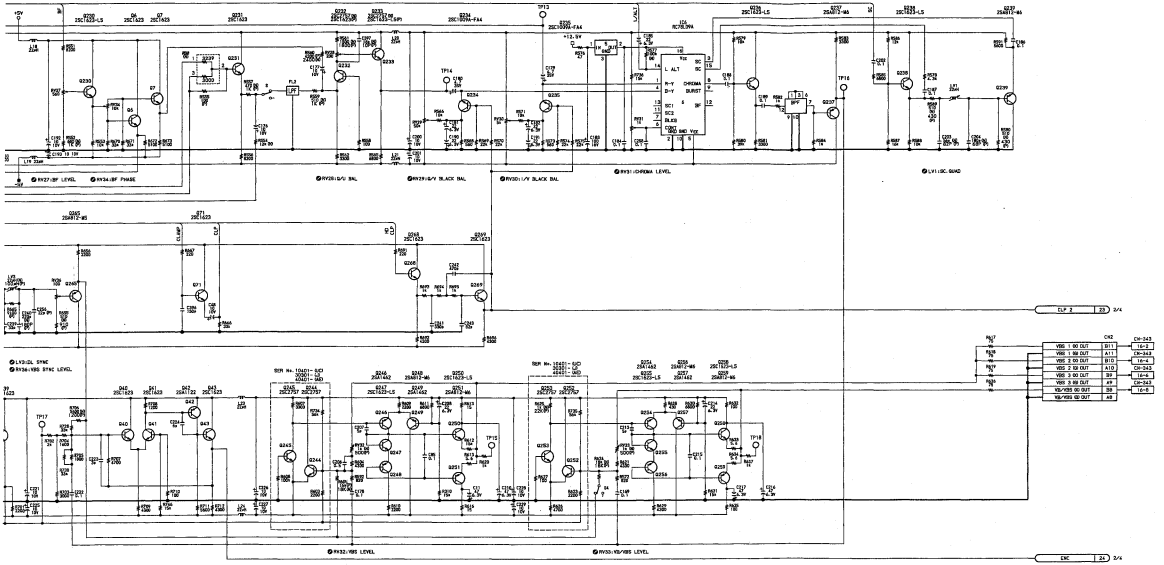
REF No.	CHANGE INFORMATION	SER No.
R409	2700 ⟶ 2200	10401- (UC) 30301- (J) 40401- (AE)
R416 R434 R493	0 ⟶ 220	
R417 R435 R494	2200 ⟶ 4300	10401- (UC) 30301- (J) 40401- (AE)
R417 R435 R494	4300 ⟶ DELET	10501- (UC) 30401- (J) 40501- (AE)

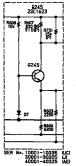
VA-87A (UC) BOARD
VA-87B (J) BOARD
VA-87P (AE) BOARD (2/4)
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

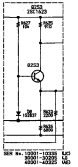
VA-87A/87B/87P (3/4) BOARD



VA-87A/87B/87P (3/4)





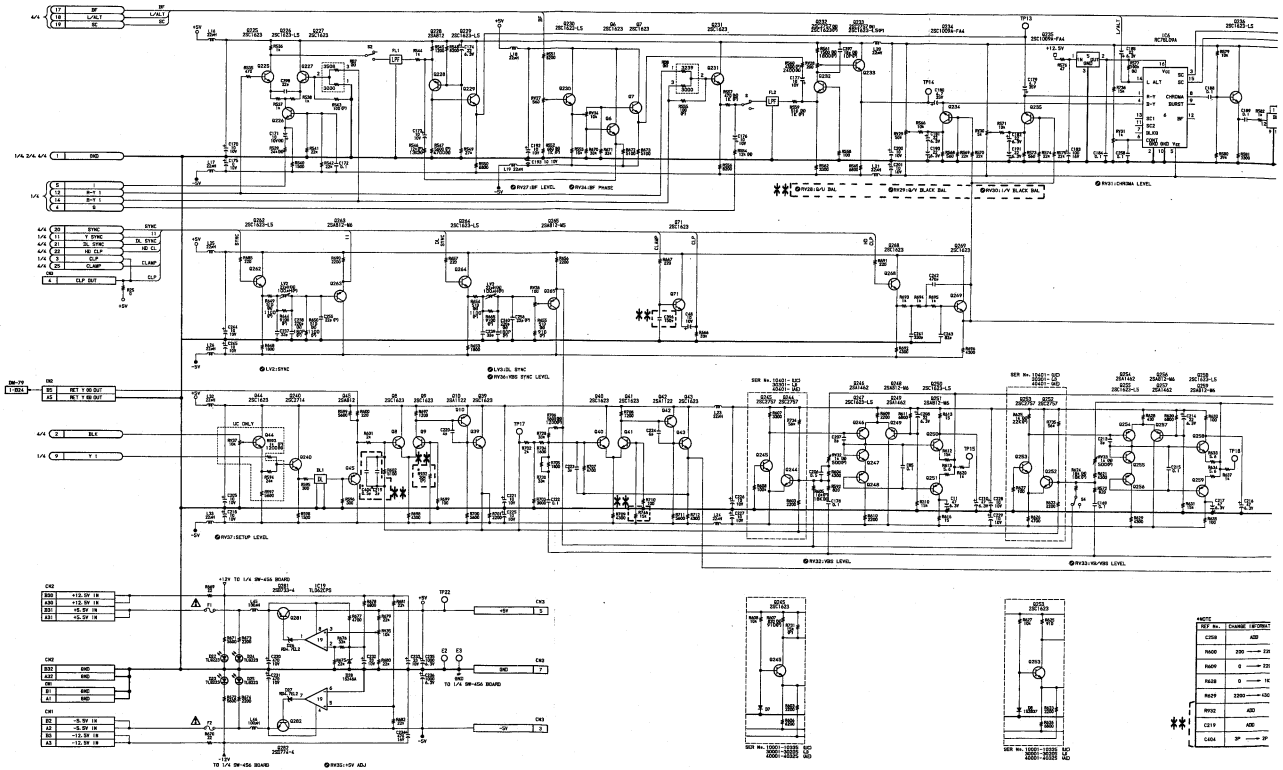


+5VTC REF No.	CHANGE INFORMATION	DEB No.
C2106	ADD	10401~ (UC) 30301~ (J) 40401~ (AE)
R600	200 ⟶ 220	
R609	0 ⟶ 220	
R628	0 ⟶ 1K	
R629	2200 ⟶ 4300	
R902	ADD	10901~ (UC) 30701~ (J) 41001~ (AE)
C219	ADD	
C404	39 ⟶ 27	

VA-87A (UC) BOARD
VA-87B (J) BOARD
VA-87P (AE) BOARD (3/4)

CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

VA-87A/87B/87P (3/4) BOARD

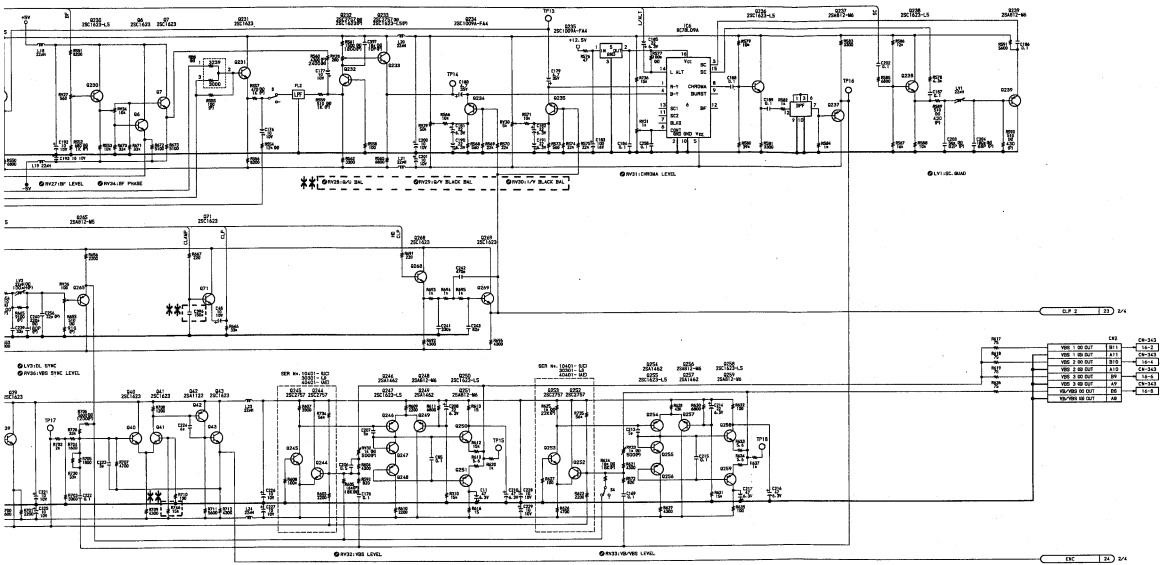


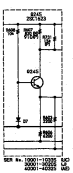
CCU-370P (AE) 1R6

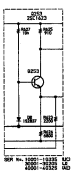
C-23 C-24

A | B | C | D | E | F | G | H

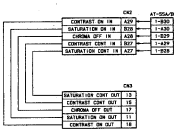
VA-87A/87B/87P (3/4)







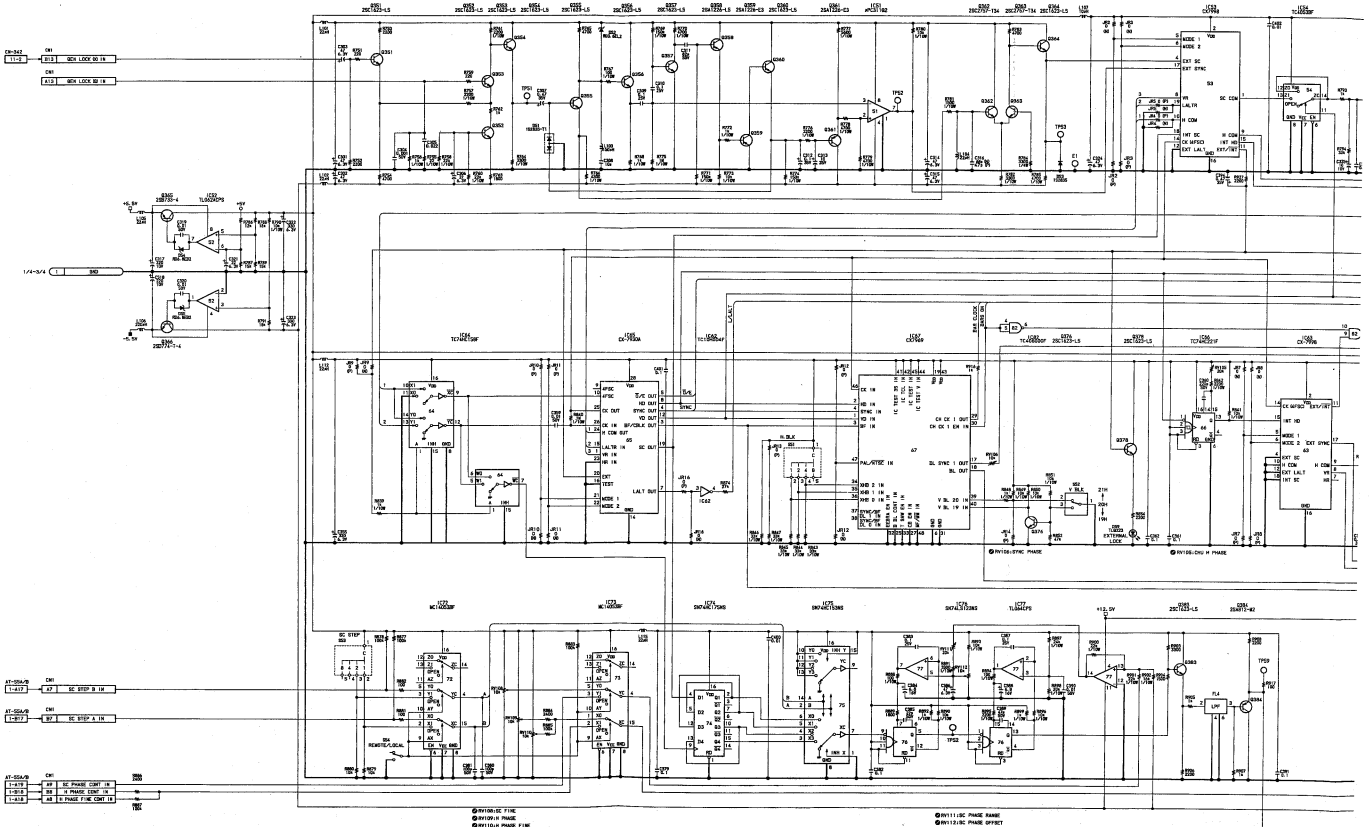
※NOTE		
REF No.	CHANGE INFORMATION	SCH No.
C268	ADD	10401~ (UC) 30301~ (J) 40401~ (AE)
R600	220 ⟶ 220	
R609	0 ⟶ 220	
R628	0 ⟶ 1K	
R629	2200 ⟶ 4700	
R903	ADD	10901~ (UC) 20601~ (J) 41001~ (AE)
C219	ADD	10901~ (UC) 30701~ (J) 41001~ (AE)
C404	3P ⟶ 3P	

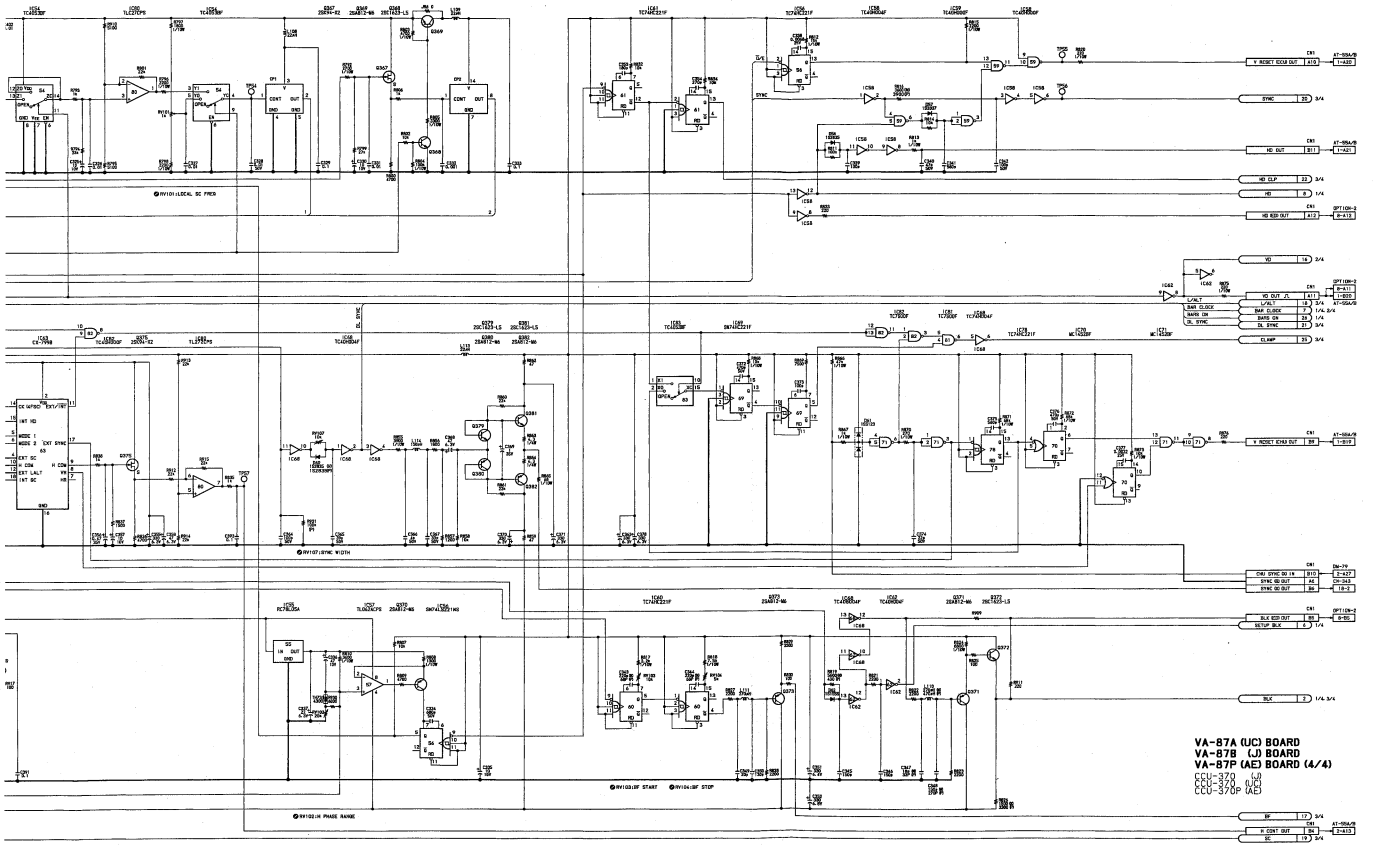


VA-87A (UC) BOARD
VA-87B (J) BOARD
VA-87P (AE) BOARD (3/4)

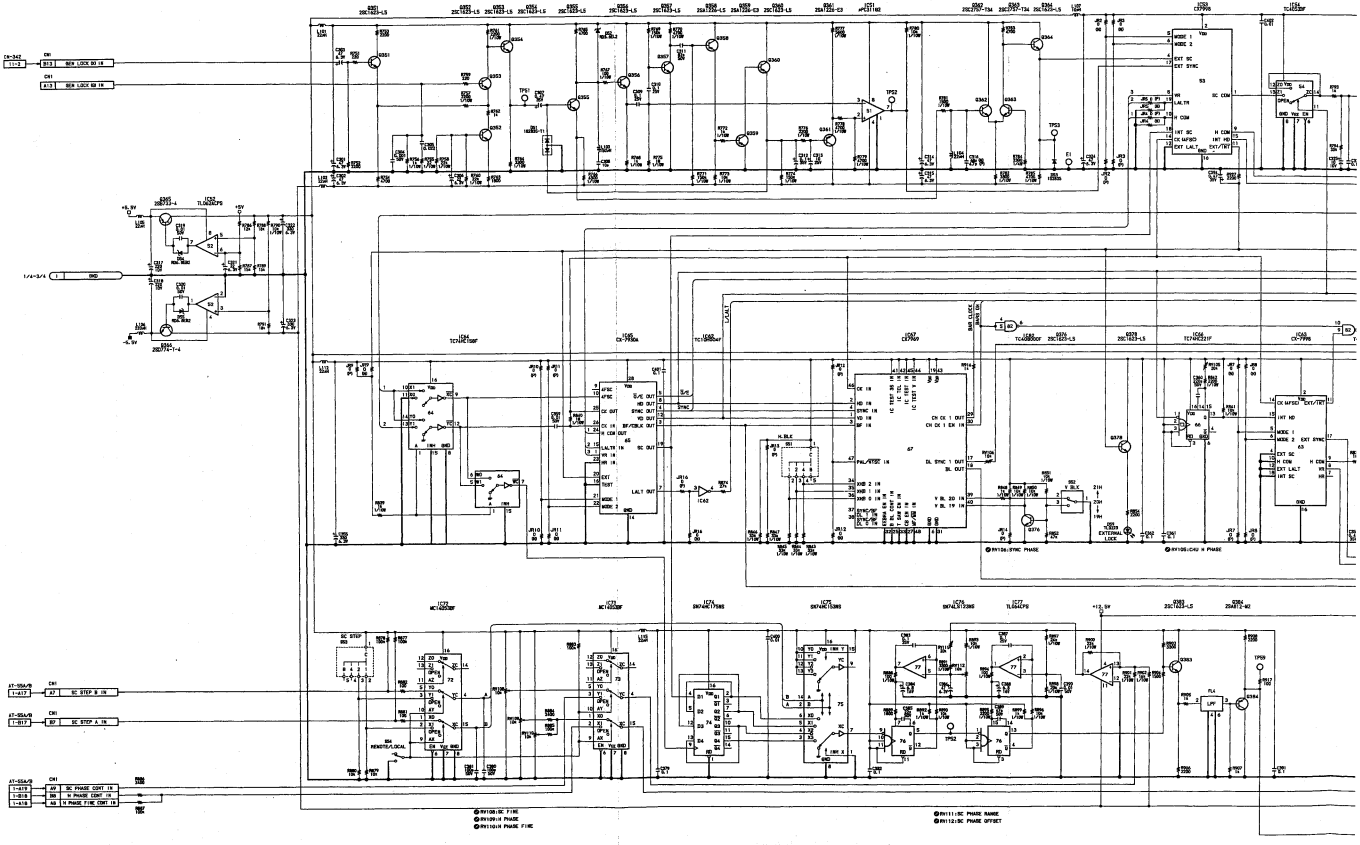
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

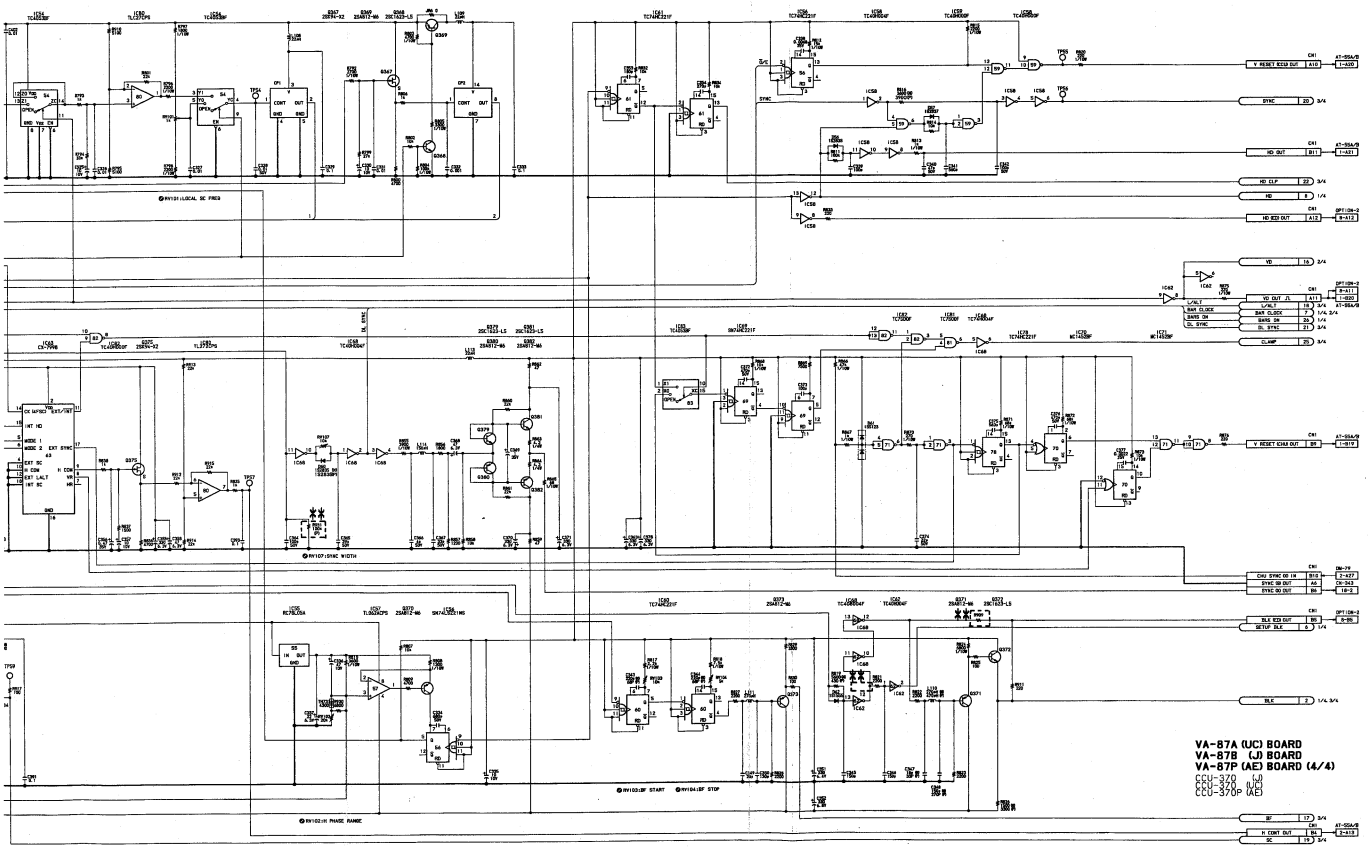
VA-87A/87B/87P (4/4) BOARD




VA-87A (UC) BOARD
VA-87B (J) BOARD
VA-87P (AE) BOARD (4/4)
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

VA-87A/87B/87P (4/4) BOARD





C-31 C-32

B-CCU370-VA87M#4

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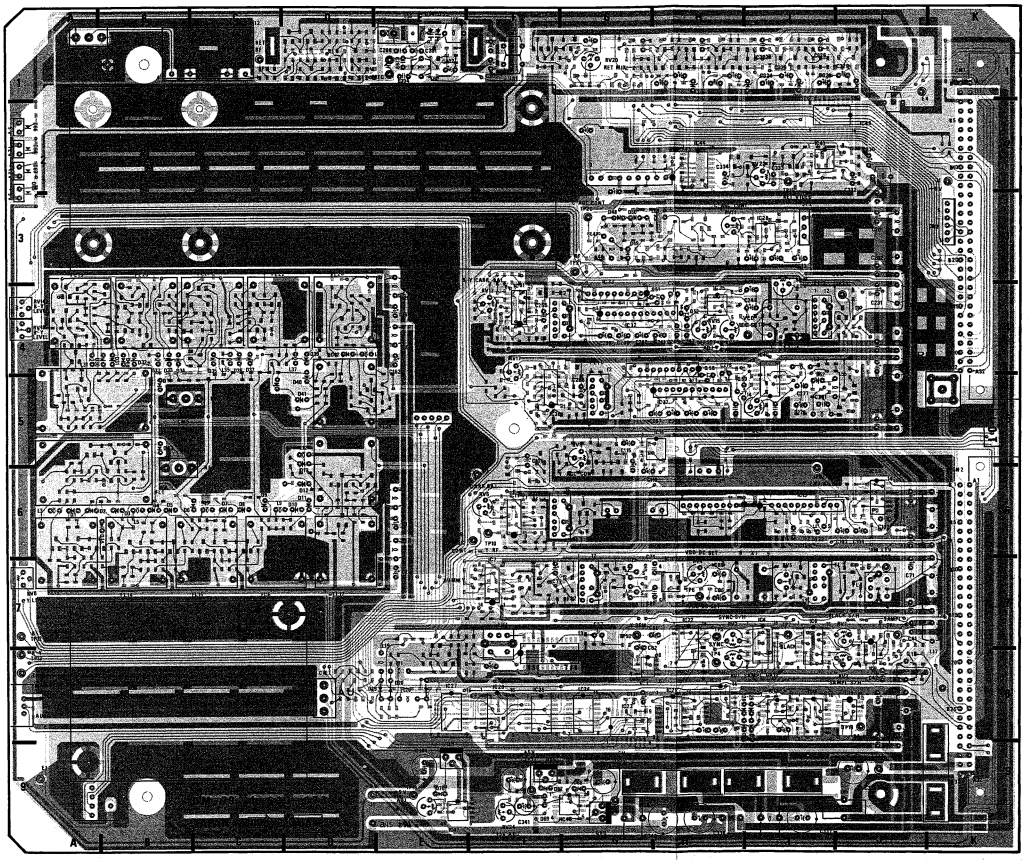
1 2 3 4 5

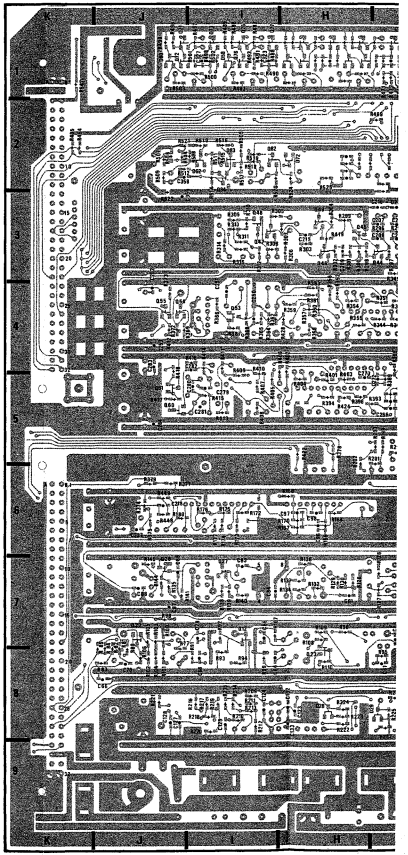
DM-79 BOARD

Serial No. 10001 – 10015 (UC)
30001 – 30020 (J)
40001 – 40020 (AE)

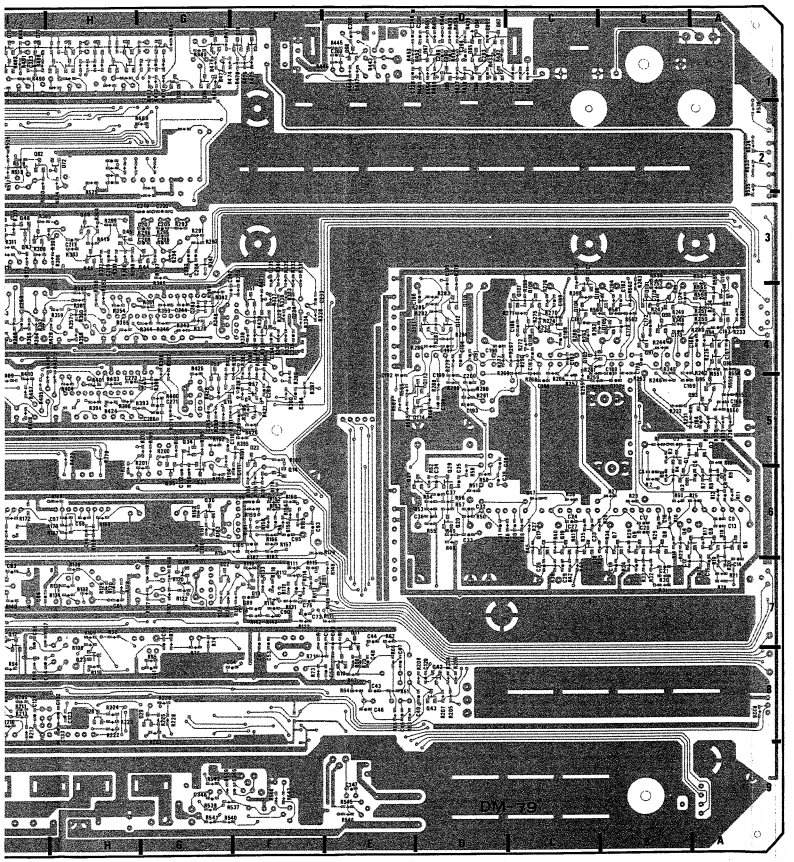


1-633-073-11 COMPONENT SIDE

C-33 (a)



C-34 (a)



1-633-073-11 SOLDERING SIDE

C-35 (a)

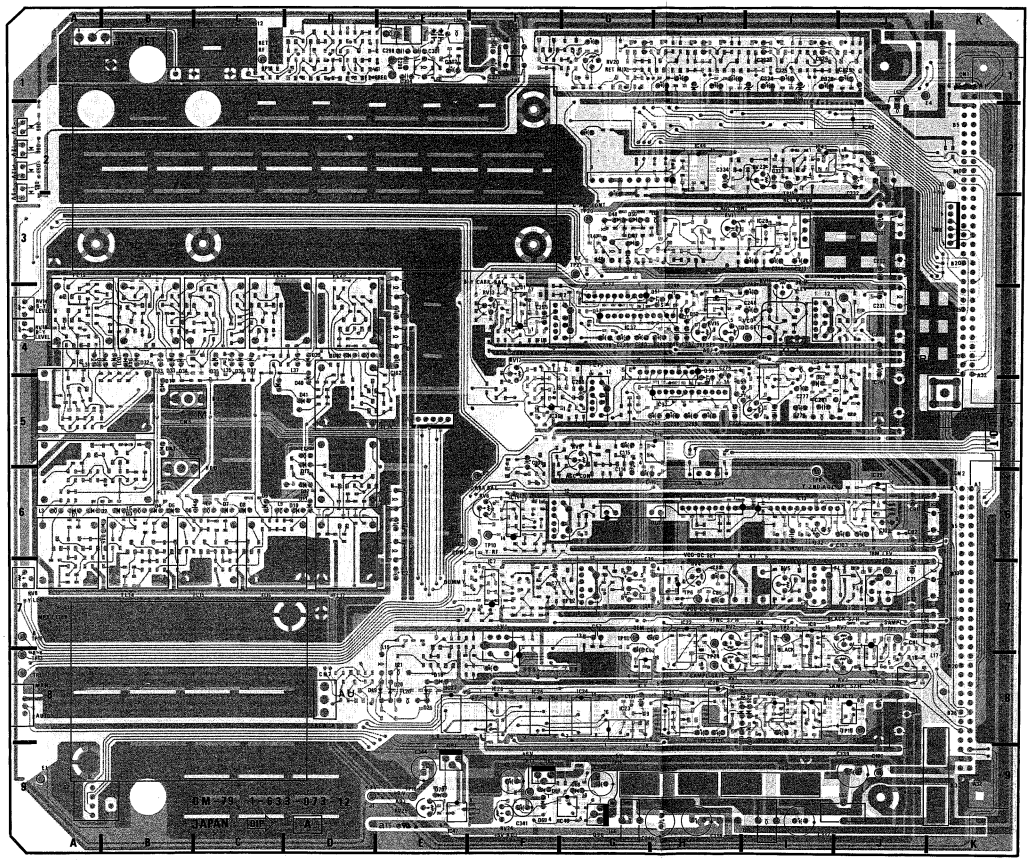
DM-79 1-633-073-11

CN1	K-1	D66	A-2	IC38	H-4	Q71	J-1	TP1	J-7
CN2	K-6	D67	F-9	IC39	J-6	Q72	J-1	TP2	I-7
CN3	A-1	D68	G-9	IC40	I-4	Q73	I-1	TP3	H-7
CN4	B-5	D69	F-9	IC43	I-2	Q75	I-1	TP4	H-8
CN5	B-5	D70	E-9	IC44	H-2	Q76	I-1	TP5	G-7
CN6	K-4	D72	H-2	IC46	G-9	Q77	I-1	TP6	H-7
CN7	D-8			IC47	E-9	Q78	F-1	TP7	J-7
CN8	K-3	E1	A-9	IC48	J-2	Q79	F-1	TP8	I-6
CN9	E-5	E2	J-9			Q81	H-2	TP9	E-6
		E3	F-6	LV1	F-7	Q82	I-2	TP10	F-6
CV1	D-1	E4	J-1			Q83	I-2	TP11	A-8
		E5	B-1	Q1	B-5	Q84	I-2	TP12	A-7
DL1	G-6			Q2	B-6	Q85	D-1	TP13	A-8
		FL1	B-1	Q3	A-5	Q86	G-1	TP14	C-1
D1	A-6	FL2	G-7	Q4	B-6	Q87	G-1	TP15	I-2
D2	B-6	FL3	J-7	Q5	A-6	Q88	G-1	TP16	G-9
D3	B-6	FL4	J-7	Q6	A-6	Q89	F-9	TP17	F-9
D4	B-6	FL5	F-6	Q7	B-6	Q90	G-9	TP18	E-9
D5	B-6	FL7	B-5	Q8	B-6	Q91	E-9	TP19	J-8
D6	B-6	FL8	F-4	Q9	B-6	Q92	A-4	TP20	G-3
D7	C-6	FL9	I-4	Q10	E-8	Q93	A-4	TP21	G-3
D8	C-6	FL10	G-4	Q11	E-7	Q94	A-4	TP22	I-4
D9	C-6	FL11	A-7	Q12	I-7	Q95	A-5	TP23	J-4
D10	D-6	FL12	C-1	Q13	F-7	Q96	A-4		
D11	D-6	FL13	A-7	Q14	F-6	Q97	B-4	X1	I-6
D12	D-6	FL14	B-7	Q15	F-4	Q98	B-4	X2	I-4
D13	D-6	FL15	C-7	Q16	G-5	Q99	B-4		
D14	B-5	FL16	C-7	Q17	C-6	Q100	A-3		
D15	B-6	FL17	D-7	Q18	C-6	Q101	B-4		
D18	E-8	FL18	E-6	Q19	C-6	Q102	C-3		
D19	D-8	FL19	A-3	Q20	D-6	Q103	C-4		
D20	E-8	FL20	B-3	Q21	E-6	Q104	C-4		
D21	E-8	FL21	C-3	Q22	J-7	Q105	C-4		
D22	G-7	FL22	C-3	Q23	H-8	Q106	C-4		
D23	F-5	FL23	D-3	Q24	G-7	Q107	C-4		
D24	H-8	FL24	E-5	Q25	G-7	Q108	C-4		
D25	H-8			Q26	G-7	Q109	C-4		
D26	I-8	F1	I-9	Q27	I-7	Q110	D-4		
D28	H-8	F2	J-9	Q28	J-7	Q111	D-4		
D29	G-8	F3	H-9	Q29	D-6	Q112	D-4		
D30	A-4			Q30	G-6	Q113	D-5		
D31	B-4	IC1	G-8	Q32	I-6	Q114	D-5		
D32	B-4	IC3	F-7	Q33	G-6				
D33	B-4	IC4	I-7	Q34	G-6	RV1	H-8		
D34	B-4	IC7	F-7	Q35	G-6	RV2	H-7		
D35	C-4	IC8	I-7	Q42	D-8	RV3	J-8		
D36	C-4	IC9	J-8	Q43	D-8	RV4	H-7		
D37	C-4	IC10	H-7	Q44	G-3	RV5	I-7		
D38	C-5	IC11	F-6	Q45	H-3	RV6	F-6		
D39	D-4	IC12	H-6	Q46	H-3	RV7	J-7		
D40	D-5	IC13	I-6	Q47	I-3	RV8	A-7		
D41	D-5	IC16	H-5	Q48	I-3	RV9	G-5		
D42	D-4	IC17	I-8	Q49	H-3	RV11	H-3		
D43	B-5	IC18	I-8	Q51	H-4	RV12	H-4		
D44	B-4	IC19	J-8	Q52	H-4	RV13	F-4		
D47	G-3	IC20	H-8	Q53	I-4	RV14	A-4		
D48	G-3	IC21	H-8	Q54	J-4	RV15	H-4		
D49	G-3	IC22	H-7	Q55	J-4	RV16	I-3		
D50	G-3	IC23	G-8	Q57	F-5	RV17	F-4		
D51	F-4	IC24	G-8	Q58	H-4	RV18	A-4		
D52	I-5	IC25	F-8	Q59	H-5	RV19	I-5		
D53	G-4	IC26	F-8	Q60	J-5	RV20	G-1		
D54	E-1	IC27	E-8	Q61	J-5	RV22	I-2		
D55	E-1	IC28	I-3	Q62	D-1	RV24	F-9		
D58	I-1	IC31	F-4	Q63	D-1	RV25	E-9		
D60	J-1	IC32	G-4	Q64	D-1				
D62	I-2	IC33	G-3	Q65	D-1	S1	A-8		
D63	A-2	IC35	H-4	Q66	D-1	S2	A-9		
D64	A-2	IC36	F-5	Q67	D-1				
D65	A-2	IC37	H-5	Q68	E-1	SP1	H-5		
						SP2	I-3		

C-36 (a)

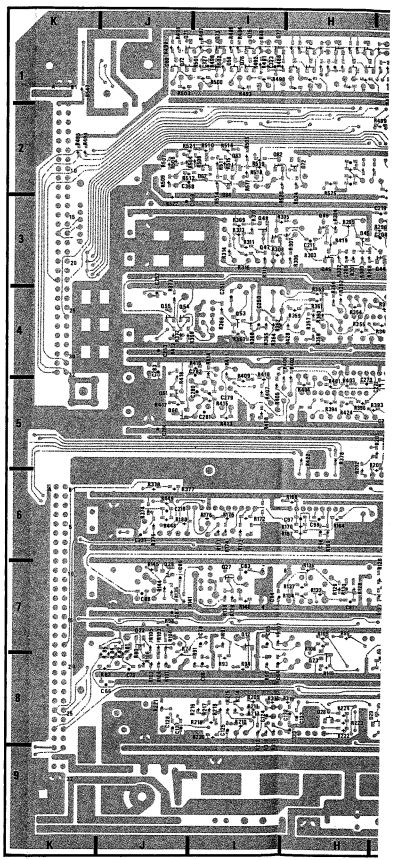
CCU-370/P

Serial No. 10101 – 10335 (UC)
30101 – 30205 (J)
40101 – 40325 (AE)

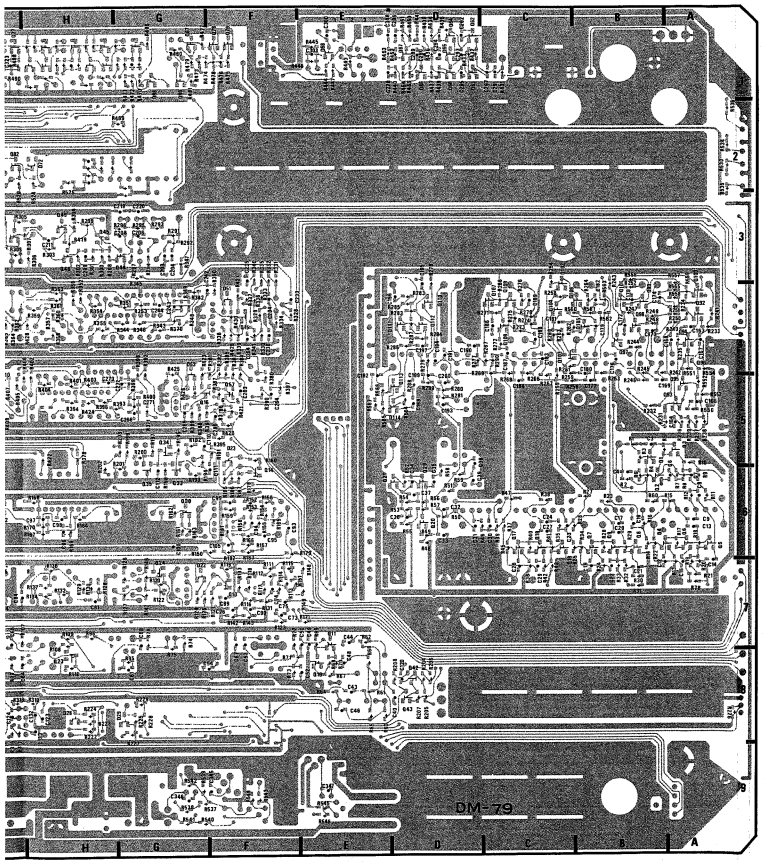


1-633-073-12 COMPONENT SIDE

C-33 (b)



C-34 (b)



1-633-073-12 SOLDERING SIDE

C-35 (b)

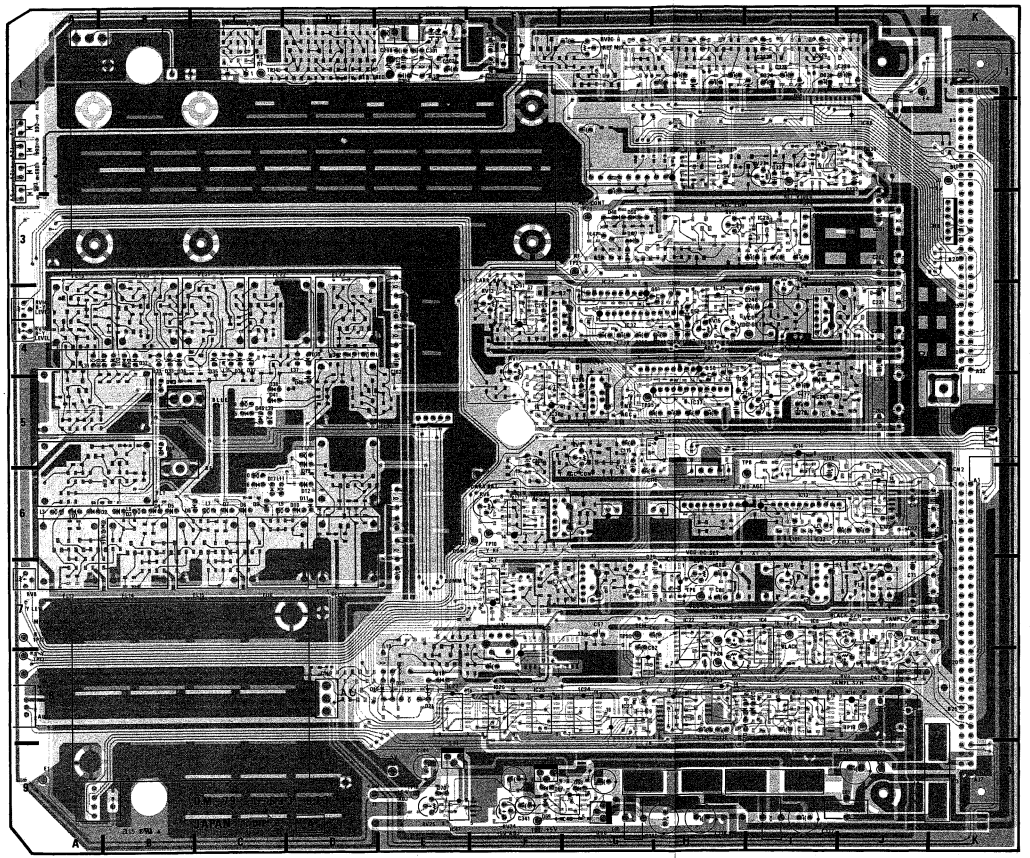
DM-79 1-633-073-12

CN1	K-1	D66	A-2	IC38	H-4	Q71	J-1	SP2	I-3
CN2	K-6	D67	F-9	IC39	J-6	Q72	J-1		
CN3	A-1	D68	G-9	IC40	I-4	Q73	I-1	TP1	J-7
CN4	B-5	D69	F-9	IC43	I-2	Q75	I-1	TP2	I-7
CN5	B-5	D70	E-9	IC44	H-2	Q76	I-1	TP3	H-7
CN6	K-4	D72	H-2	IC46	G-9	Q77	I-1	TP4	H-7
CN7	D-8			IC47	E-9	Q78	F-1	TP5	G-7
CN8	K-3	E1	A-9	IC48	J-2	Q79	F-1	TP6	H-7
CN9	E-5	E2	J-9			Q81	H-2	TP7	J-7
		E3	F-6	LV1	F-7	Q82	I-2	TP8	I-6
CV1	D-1	E4	J-1			Q83	I-2	TP9	E-6
		E5	B-1	Q1	B-5	Q84	I-2	TP10	F-6
DL1	G-6			Q2	B-6	Q85	D-1	TP11	A-8
		FL1	B-1	Q3	A-5	Q86	G-1	TP12	A-7
D1	A-6	FL2	G-7	Q4	B-6	Q87	G-1	TP13	A-8
D2	B-6	FL3	J-7	Q5	A-6	Q88	G-1	TP14	C-1
D3	B-6	FL4	J-7	Q6	A-6	Q89	F-9	TP15	I-2
D4	B-6	FL5	F-6	Q7	B-6	Q90	G-9	TP16	G-9
D5	B-6	FL7	B-5	Q8	B-6	Q91	E-9	TP17	F-9
D6	B-6	FL8	F-4	Q9	B-6	Q92	A-4	TP18	E-9
D7	C-6	FL9	I-4	Q10	E-8	Q93	A-5	TP19	J-8
D8	C-6	FL10	G-4	Q11	E-7	Q94	A-4	TP20	G-3
D9	C-6	FL11	A-7	Q12	I-7	Q95	A-5	TP21	G-3
D10	D-6	FL12	C-1	Q13	F-7	Q96	A-4	TP22	I-4
D11	D-6	FL13	A-7	Q14	F-6	Q97	B-4	TP23	J-4
D12	D-6	FL14	B-7	Q15	F-4	Q98	B-4	TP24	H-8
D13	D-6	FL15	C-7	Q16	G-5	Q99	B-4		
D14	B-5	FL16	C-7	Q17	C-6	Q100	A-3	X1	I-6
D15	B-6	FL17	D-7	Q18	C-6	Q101	B-4	X2	I-4
D18	E-8	FL18	E-6	Q19	C-6	Q102	C-3		
D19	D-8	FL19	A-3	Q20	D-6	Q103	C-4		
D20	E-8	FL20	B-3	Q21	E-6	Q104	C-4		
D21	E-8	FL21	C-3	Q22	J-7	Q105	B-4		
D22	G-7	FL22	C-3	Q23	H-8	Q106	C-4		
D23	F-5	FL23	D-3	Q24	G-7	Q107	C-4		
D24	H-8	FL24	E-5	Q25	G-7	Q108	C-4		
D25	H-8			Q26	G-7	Q109	C-4		
D26	I-8	F1	I-9	Q27	I-7	Q110	D-4		
D28	H-8	F2	J-9	Q28	J-7	Q111	D-4		
D29	G-8	F3	H-9	Q29	D-6	Q112	D-4		
D30	A-4			Q30	G-6	Q113	D-5		
D31	B-4	IC1	G-8	Q32	I-6	Q114	D-5		
D32	B-4	IC3	F-7	Q33	G-6				
D33	B-4	IC4	I-7	Q34	G-5	RV1	H-8		
D34	B-4	IC7	F-7	Q35	G-6	RV2	H-7		
D35	C-4	IC8	I-7	Q42	D-8	RV3	J-8		
D36	C-4	IC9	J-8	Q43	D-8	RV4	H-7		
D37	C-4	IC10	H-7	Q44	G-3	RV5	I-7		
D38	C-5	IC11	F-6	Q45	H-3	RV6	F-6		
D39	D-4	IC12	H-6	Q46	H-3	RV7	J-7		
D40	D-5	IC13	I-6	Q47	I-3	RV8	A-7		
D41	D-5	IC16	H-5	Q48	I-3	RV9	G-5		
D42	D-4	IC17	I-8	Q49	H-3	RV11	H-3		
D43	B-5	IC18	I-8	Q51	H-4	RV12	H-4		
D44	B-4	IC19	J-8	Q52	H-4	RV13	F-4		
D47	G-3	IC20	H-8	Q53	I-4	RV14	A-4		
D48	G-3	IC21	H-8	Q54	J-4	RV15	H-4		
D49	G-3	IC22	H-7	Q55	J-4	RV16	I-3		
D50	G-3	IC23	G-8	Q57	F-5	RV17	F-4		
D51	F-4	IC24	G-8	Q58	H-4	RV18	A-4		
D52	I-5	IC25	F-8	Q59	H-5	RV19	I-5		
D53	G-4	IC26	F-8	Q60	J-5	RV20	G-1		
D54	E-1	IC27	E-8	Q61	J-5	RV22	I-2		
D55	E-1	IC28	I-3	Q62	D-1	RV24	F-9		
D58	I-1	IC31	F-4	Q63	D-1	RV25	E-9		
D60	J-1	IC32	G-4	Q64	D-1				
D62	I-2	IC33	G-3	Q65	D-1	S1	A-8		
D63	A-2	IC35	H-4	Q66	D-1	S2	A-9		
D64	A-2	IC36	F-5	Q67	D-1				
D65	A-2	IC37	H-5	Q68	E-1	SP1	H-5		

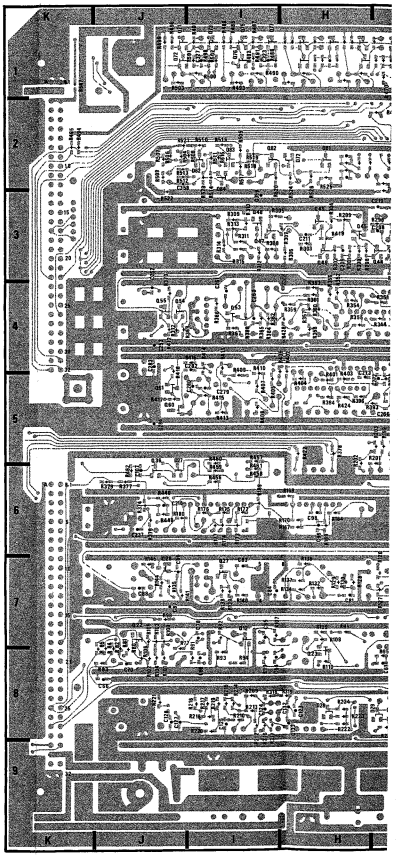
C-36 (b)

CCU-370/P

Serial No. 10401 – 10800 (UC)
30301 – 30600 (J)
40401 – 40800 (AE)

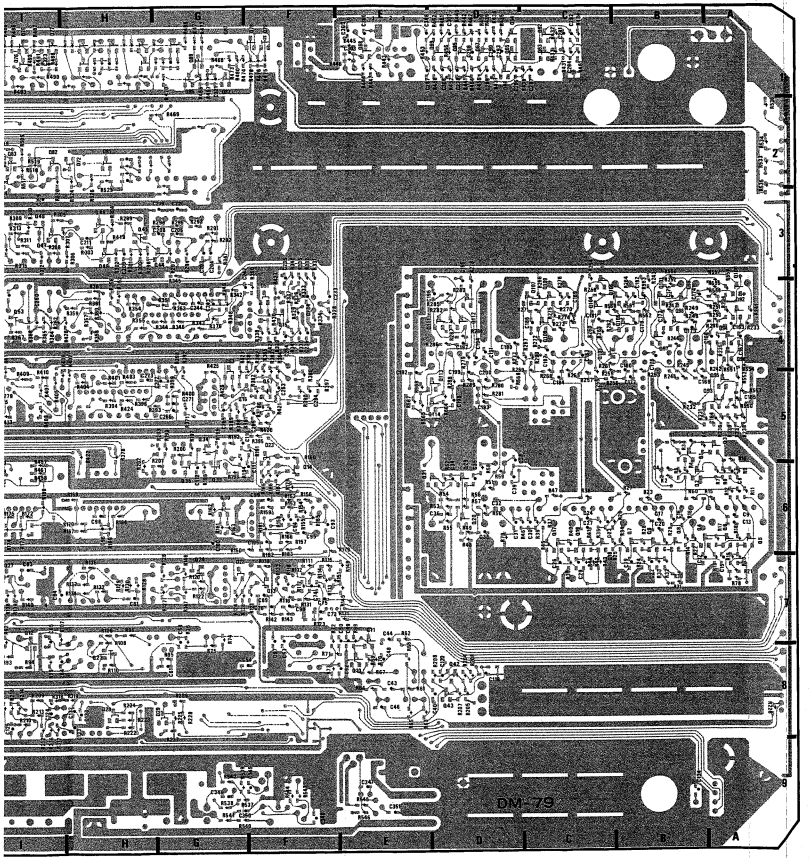


1-633-073-13 COMPONENT SIDE



C-33 (c)

C-34 (c)



1-633-073-13 SOLDERING SIDE

C-35 (c)

DM-79 1-633-073-13

CN1	K-1	D60	J-1	IC31	F-4	Q62	C-1	RV22	I-2
CN2	K-6	D62	I-2	IC32	G-4	Q63	C-1	RV24	F-9
CN3	A-1	D63	A-2	IC33	G-3	Q64	D-1	RV25	E-9
CN4	B-5	D64	A-2	IC35	H-4	Q65	D-1		
CN5	B-5	D65	A-2	IC36	F-5	Q66	D-1	S1	A-8
CN6	K-4	D66	A-2	IC37	H-5	Q67	D-1	S2	A-9
CN7	D-8	D67	F-9	IC38	H-4	Q68	E-1		
CN8	K-3	D68	G-9	IC39	J-6	Q69	D-1	SP1	H-5
CN9	E-5	D69	F-9	IC40	I-4	Q71	J-1	SP2	I-3
		D70	E-9	IC43	I-2	Q72	J-1		
CV1	D-1	D72	H-2	IC44	H-2	Q73	I-1	TP1	J-7
				IC46	G-9	Q75	I-1	TP2	I-7
DL1	G-6	E1	A-9	IC47	E-9	Q76	I-1	TP3	H-7
		E2	J-9	IC48	J-2	Q77	I-1	TP4	H-7
D1	A-6	E3	F-6			Q78	F-1	TP5	G-7
D2	B-6	E4	J-1	LV1	F-7	Q79	F-1	TP6	H-7
D3	B-6	E5	B-1			Q81	H-2	TP7	J-7
D4	B-6			Q1	B-5	Q82	I-2	TP8	I-5
D5	B-6	FL1	B-1	Q2	B-6	Q83	I-2	TP9	E-6
D6	B-6	FL2	G-7	Q3	A-5	Q84	I-2	TP10	F-6
D7	C-6	FL3	J-7	Q4	B-6	Q85	D-1	TP11	A-8
D8	C-6	FL4	J-7	Q5	A-6	Q86	G-1	TP12	A-7
D9	C-6	FL5	F-6	Q6	A-6	Q87	G-1	TP13	A-8
D10	D-6	FL7	B-5	Q7	B-6	Q88	G-1	TP14	C-1
D11	D-6	FL8	F-4	Q8	B-6	Q89	F-9	TP15	I-2
D12	D-6	FL9	I-4	Q9	B-6	Q90	G-9	TP16	E-9
D13	D-6	FL10	G-4	Q10	E-8	Q91	E-9	TP17	F-9
D14	B-5	FL11	A-7	Q11	E-7	Q92	A-4	TP18	E-9
D15	B-6	FL12	C-1	Q12	I-7	Q93	A-5	TP19	J-8
D16	C-6	FL13	A-7	Q13	F-7	Q94	A-4	TP20	G-3
D17	C-6	FL14	B-7	Q14	F-6	Q95	A-5	TP21	G-3
D18	E-8	FL15	C-7	Q15	F-4	Q96	A-4	TP22	I-4
D19	D-8	FL16	F-7	Q16	G-5	Q97	B-4	TP23	J-4
D20	E-8	FL17	D-7	Q17	C-6	Q98	B-4	TP24	H-8
D21	E-8	FL18	E-6	Q18	C-6	Q99	B-4	TP25	G-5
D22	G-7	FL19	A-3	Q19	C-6	Q100	A-3		
D23	F-5	FL20	B-3	Q20	D-6	Q101	B-4	X1	I-6
D24	H-8	FL21	C-3	Q21	E-6	Q102	C-3	X2	I-4
D25	H-8	FL22	C-3	Q22	J-7	Q103	C-4		
D26	I-8	FL23	D-3	Q23	H-8	Q104	C-4		
D27	J-5	FL24	E-5	Q24	G-7	Q105	B-4		
D28	H-8			Q25	G-7	Q106	C-4		
D29	G-8	F1	I-9	Q26	G-7	Q107	C-4		
D30	A-4	F2	J-9	Q27	I-7	Q108	C-4		
D31	B-4	F3	H-9	Q28	J-7	Q109	C-4		
D32	B-4			Q29	D-6	Q110	D-4		
D33	B-4	IC1	G-8	Q30	G-6	Q111	D-4		
D34	B-4	IC3	F-7	Q32	I-6	Q112	D-4		
D35	C-4	IC4	I-7	Q33	G-6	Q113	D-5		
D36	C-4	IC7	F-7	Q34	G-5	Q114	D-5		
D37	C-4	IC8	I-7	Q35	G-6				
D38	C-5	IC9	J-8	Q36	J-5	RV1	H-8		
D39	D-4	IC10	H-7	Q42	D-8	RV2	H-7		
D40	D-5	IC11	F-6	Q43	D-8	RV3	J-8		
D41	C-5	IC12	H-6	Q44	G-3	RV4	H-7		
D42	D-4	IC13	I-6	Q45	H-3	RV5	I-7		
D43	B-5	IC14	I-5	Q46	H-3	RV6	F-6		
D44	B-4	IC16	H-5	Q47	I-3	RV7	J-7		
D45	C-5	IC17	I-8	Q48	I-3	RV8	A-7		
D46	C-5	IC18	I-8	Q49	H-3	RV9	G-5		
D47	G-3	IC19	J-8	Q51	H-4	RV11	H-3		
D48	G-3	IC20	H-8	Q52	H-4	RV12	H-4		
D49	G-3	IC21	H-8	Q53	I-4	RV13	F-4		
D50	G-3	IC22	H-7	Q54	J-4	RV14	A-4		
D51	F-4	IC23	G-8	Q55	J-4	RV15	H-4		
D52	I-5	IC24	G-8	Q57	F-5	RV16	I-3		
D53	G-4	IC25	F-8	Q58	H-4	RV17	F-4		
D54	E-1	IC26	F-8	Q59	H-5	RV18	A-4		
D55	E-1	IC27	E-8	Q60	J-5	RV19	I-5		
D58	I-1	IC28	I-3	Q61	J-5	RV20	G-1		

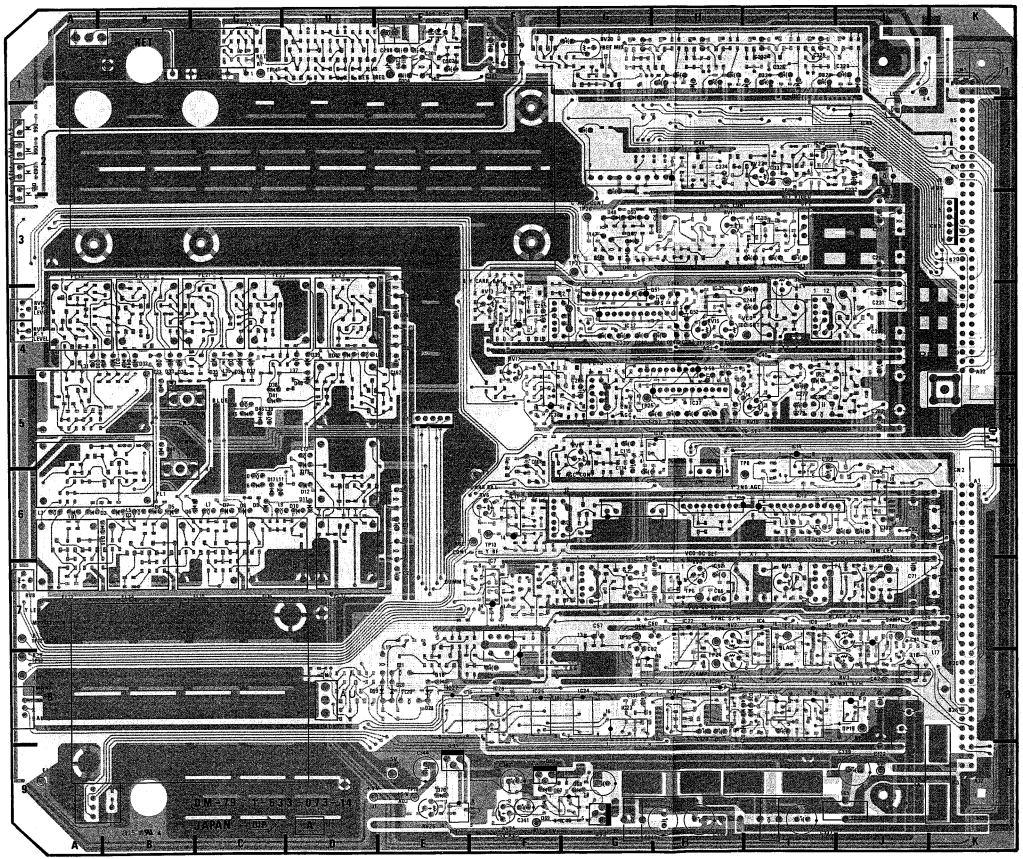
C-36 (c)

CCU-370/P

DM-79 BOARD

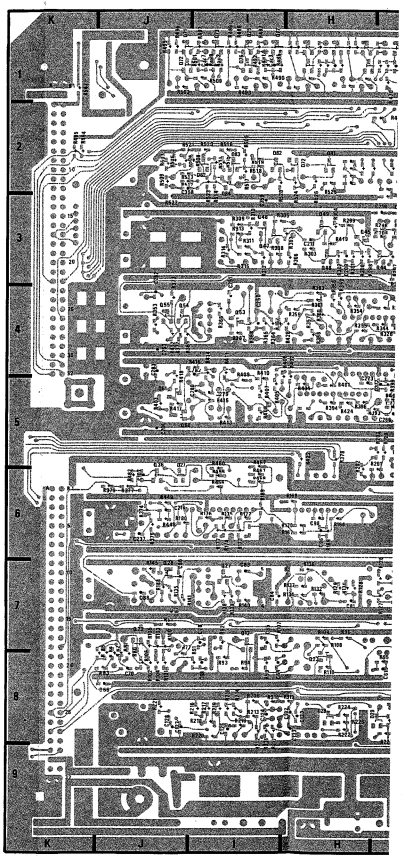
Serial No. 10801 – 10900 (UC)
30601 – 30700 (J)
40801 – 40900 (AE)

DM-79 DM-79

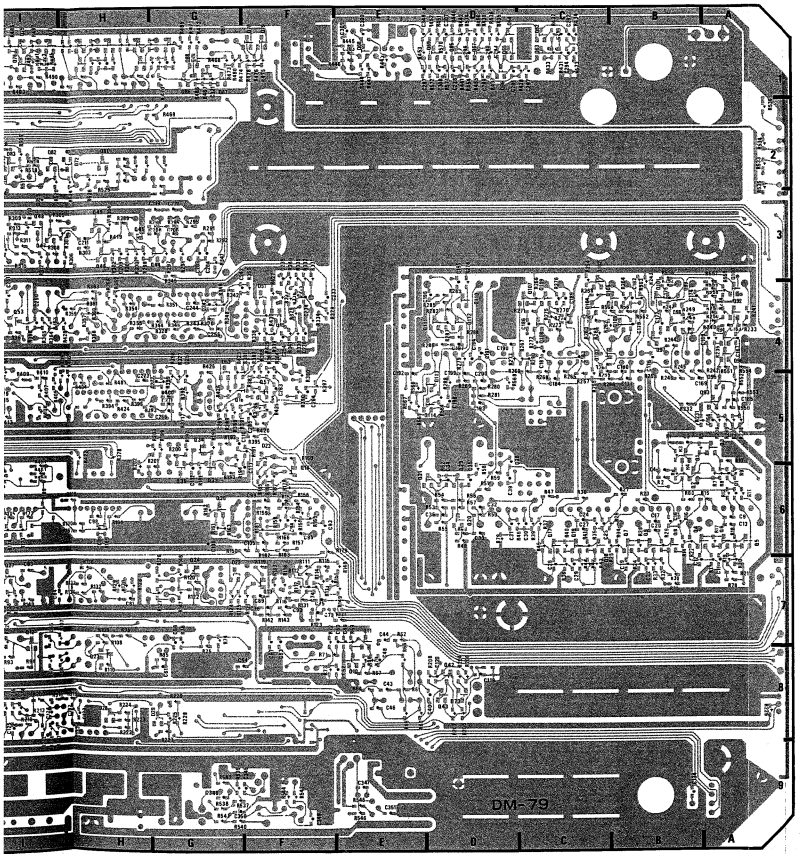


1-633-073-14 COMPONENT SIDE

C-33 (d)



C-34 (d)



1-633-073-14 SOLDERING SIDE

C-35 (d)

DM-79 1-633-073-14

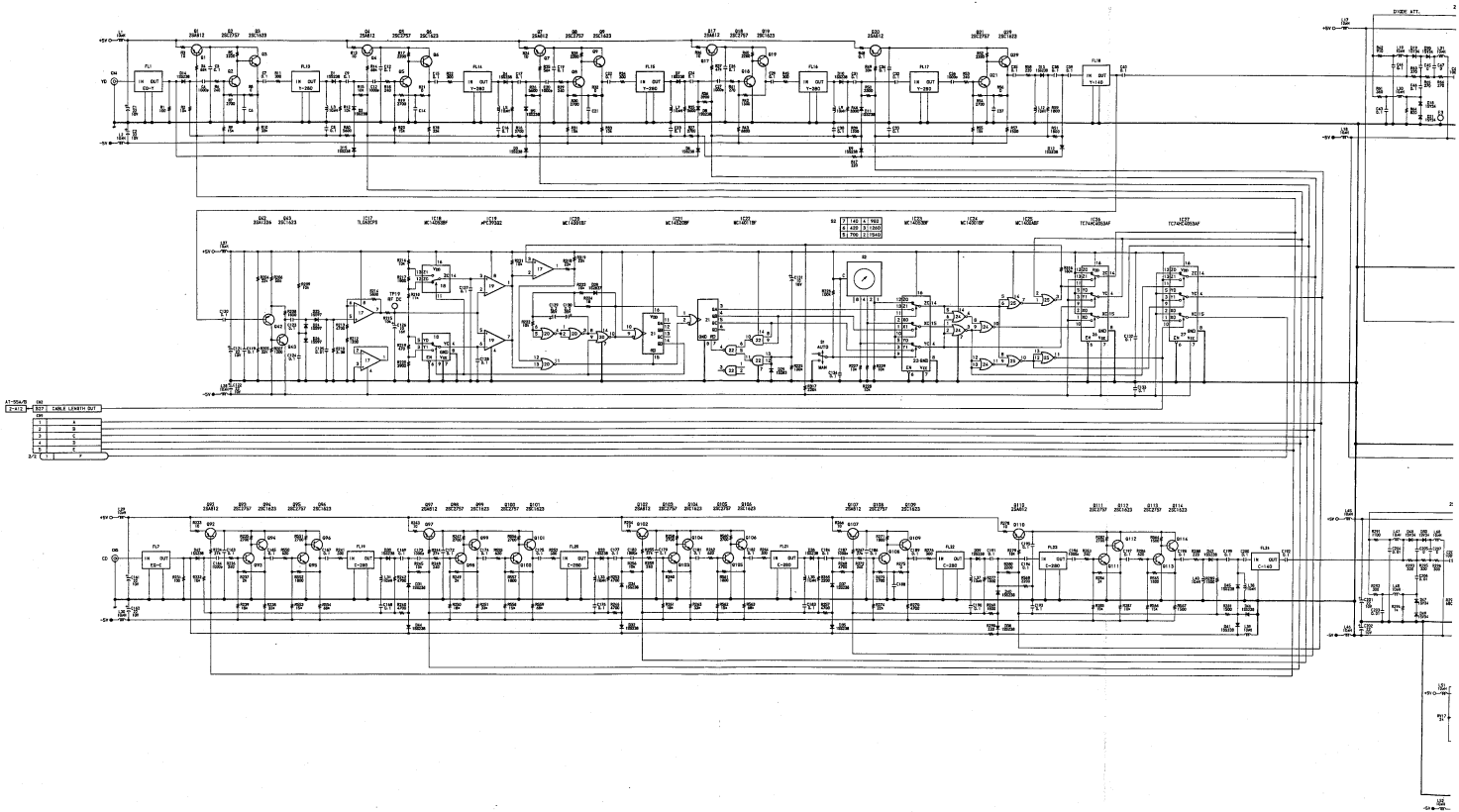
CN1	K-1	D63	A-2	C32	G-4	Q63	C-1	RV24	F-9
CN2	K-6	D64	A-2	C33	G-4	Q64	D-1	RV25	E-9
CN3	A-1	D65	A-2	IC35	H-4	Q65	D-1		
CN4	B-5	D66	A-2	IC36	F-5	Q66	D-1	S1	A-8
CN5	B-5	D67	F-9	IC37	H-5	Q67	D-1	S2	A-9
CN6	K-4	D68	G-9	IC38	H-4	Q68	E-1		
CN7	D-8	D69	F-9	IC39	J-6	Q69	D-1	SP1	H-5
CN8	K-3	D70	E-9	IC40	I-4	Q71	J-1	SP2	I-3
CN9	E-5	D72	H-2	IC43	I-2	Q72	J-1		
		D73	D-8	IC44	H-2	Q73	I-1	TP1	J-7
CV1	E-1			IC46	G-9	Q75	I-1	TP2	I-7
		E1	A-9	IC47	E-9	Q76	I-1	TP4	H-7
DL1	G-6	E2	J-9	IC48	J-2	Q77	I-1	TP5	G-7
		E3	F-6			Q78	F-1	TP6	H-7
D1	A-6	E4	J-1	LV1	F-7	Q79	F-1	TP7	J-7
D2	B-6	E5	B-1			Q81	H-2	TP8	I-5
D3	B-6			Q1	B-5	Q82	I-2	TP9	E-6
D4	B-6	FL1	B-6	Q2	B-6	Q83	I-2	TP10	F-6
D5	B-6	FL2	G-7	Q3	A-5	Q84	I-2	TP11	A-8
D6	B-6	FL3	I-7	Q4	B-6	Q85	D-1	TP12	A-7
D7	C-6	FL4	J-7	Q5	A-6	Q86	G-1	TP13	A-8
D8	C-6	FL5	F-6	Q6	A-6	Q87	G-1	TP14	C-1
D9	C-6	FL7	B-5	Q7	B-6	Q88	G-1	TP15	I-2
D10	D-6	FL8	F-4	Q8	B-6	Q89	F-9	TP16	E-9
D11	D-6	FL9	I-4	Q9	B-6	Q90	G-9	TP17	F-9
D12	D-6	FL10	G-4	Q10	E-8	Q91	E-9	TP18	E-9
D13	D-6	FL11	A-7	Q11	E-7	Q92	A-4	TP19	J-8
D14	B-5	FL12	A-1	Q12	I-7	Q93	A-5	TP20	G-3
D15	B-6	FL13	A-7	Q13	F-7	Q94	A-4	TP21	G-3
D16	C-6	FL14	B-7	Q14	F-6	Q95	A-5	TP22	I-4
D17	C-6	FL15	C-7	Q15	F-4	Q96	A-4	TP23	J-4
D18	E-8	FL16	C-7	Q16	G-5	Q97	B-4	TP24	H-8
D19	E-8	FL17	C-7	Q17	C-6	Q98	B-4	TP25	G-5
D20	E-8	FL18	E-6	Q18	C-6	Q99	B-4		
D21	E-8	FL19	A-3	Q19	C-6	Q100	A-3	X1	I-6
D22	G-7	FL20	B-3	Q20	D-6	Q101	B-4	X2	I-4
D23	F-5	FL21	C-3	Q21	E-6	Q102	C-3		
D24	H-8	FL22	C-3	Q22	J-7	Q103	C-4		
D25	H-8	FL23	C-3	Q23	H-8	Q104	C-4		
D26	I-8	FL24	E-5	Q24	G-7	Q105	B-4		
D27	J-5			Q25	G-7	Q106	B-4		
D28	H-8	F1	I-9	Q26	G-7	Q107	C-4		
D29	G-8	F2	J-9	Q27	I-7	Q108	C-4		
D30	B-4	F3	H-9	Q28	J-7	Q109	C-4		
D31	B-4			Q29	D-6	Q110	D-4		
D32	B-4	IC1	G-8	Q30	G-6	Q111	D-4		
D33	B-4	IC3	F-7	Q32	I-6	Q112	D-4		
D34	B-4	IC4	I-7	Q33	G-6	Q113	D-5		
D35	C-4	IC7	F-7	Q34	G-5	Q114	D-5		
D36	C-4	IC8	I-7	Q35	G-6				
D37	C-4	IC9	J-8	Q36	J-5	RV1	H-8		
D38	C-5	IC10	H-7	Q42	D-8	RV2	H-7		
D39	D-4	IC11	F-6	Q43	D-8	RV3	J-8		
D40	D-5	IC12	H-6	Q44	G-3	RV4	H-7		
D41	C-5	IC13	I-6	Q45	H-3	RV5	I-7		
D42	D-4	IC14	I-5	Q46	H-3	RV6	F-6		
D43	B-5	IC16	H-5	Q47	I-3	RV7	J-7		
D44	B-4	IC17	I-8	Q48	I-3	RV8	A-7		
D45	C-5	IC18	I-8	Q49	H-3	RV9	G-5		
D46	C-5	IC19	J-8	Q51	H-4	RV11	H-3		
D47	G-3	IC20	H-8	Q52	H-4	RV12	H-4		
D48	G-3	IC21	H-8	Q53	I-4	RV13	F-4		
D49	G-3	IC22	H-7	Q54	J-4	RV14	A-4		
D50	G-3	IC23	G-8	Q55	J-4	RV15	H-4		
D51	F-4	IC24	G-8	Q57	F-5	RV16	I-3		
D52	I-5	IC25	F-8	Q58	H-4	RV17	F-4		
D53	G-4	IC26	F-8	Q59	H-5	RV18	A-4		
D54	E-1	IC27	E-8	Q60	J-5	RV19	I-5		
D55	E-1	IC28	I-3	Q61	J-5	RV20	G-1		
D62	I-2	IC31	F-4	Q62	C-1	RV22	I-2		

C-36 (d)

CCU-370/P

DM-79 (1/2) BOARD

Serial No. 10001 – 10335 (UC)
30001 – 30205 (J)
40001 – 40325 (AE)

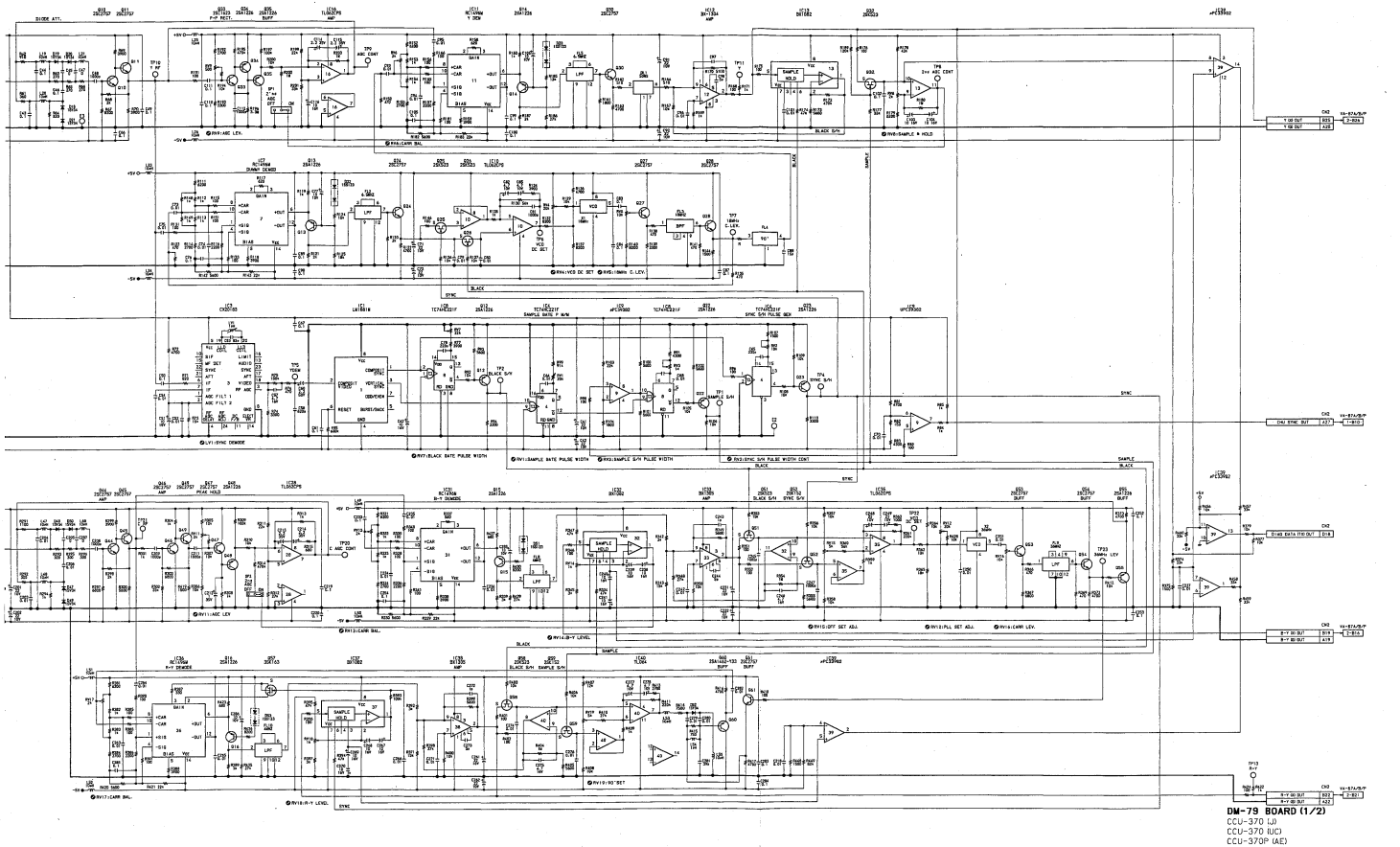


CCU-370/P

C-37 (a)

C-38 (a)

A | B | C | D | E | F | G | H



DM-79 BOARD (1/2)
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

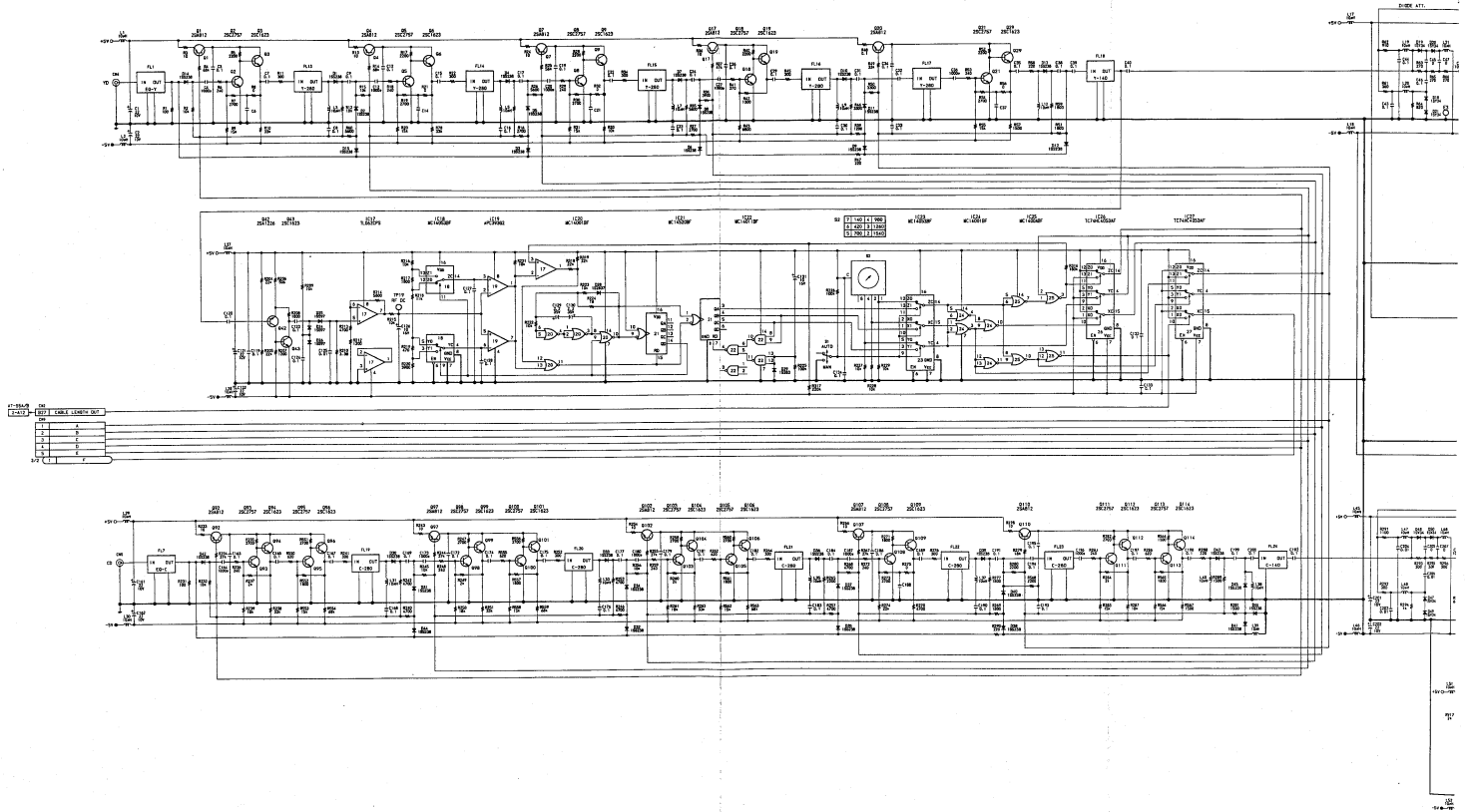
B-CCU370-DM79M#1

C-39 (a)

C-40 (a)

DM-79 (1/2) BOARD

Serial No. 10001 – 10335 (UC)
30001 – 30205 (J)
40001 – 40325 (AE)

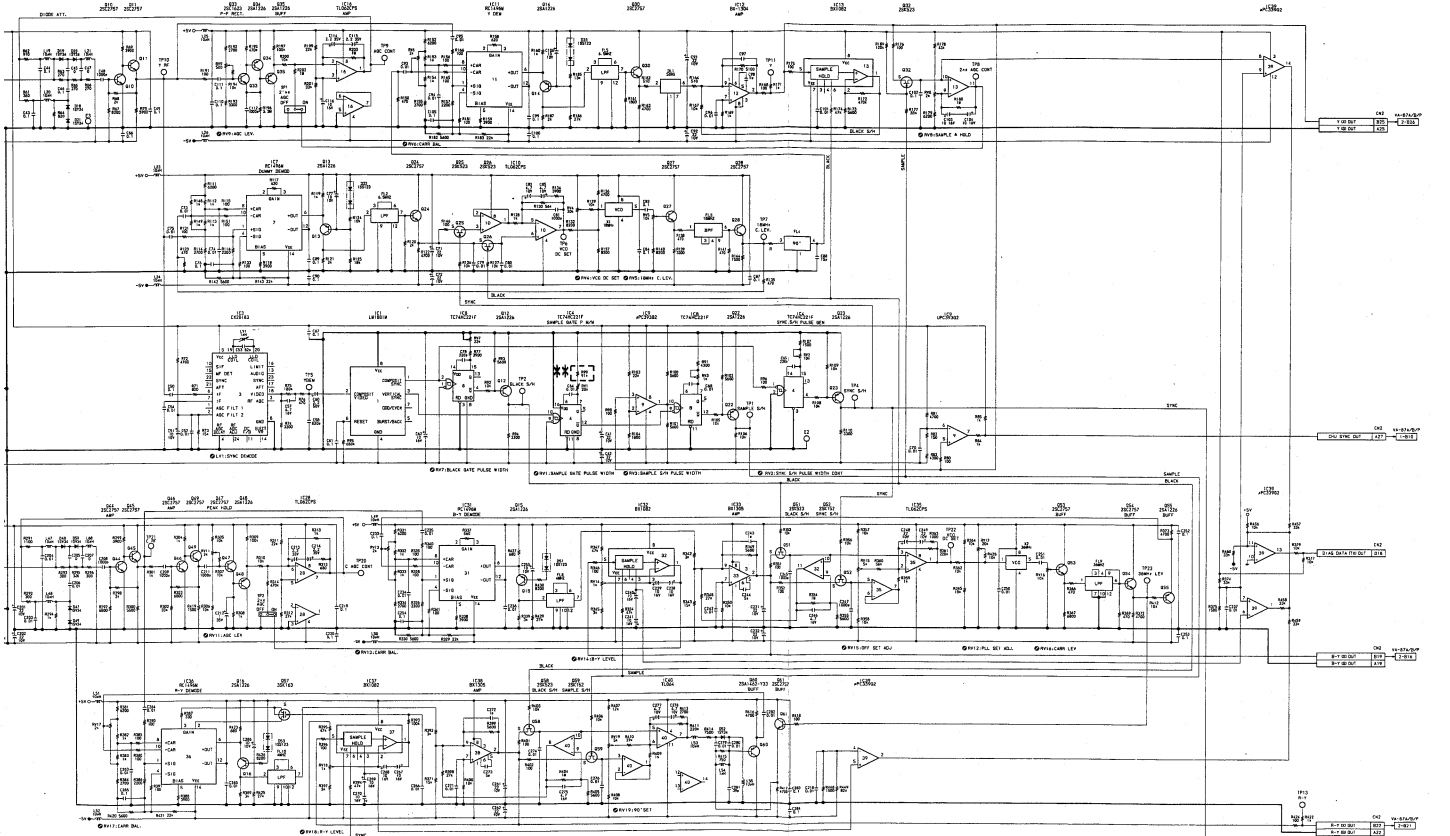


CCU-370P (AE) 1R6

C-37 (a)

C-38 (a)

A | B | C | D | E | F | G | H

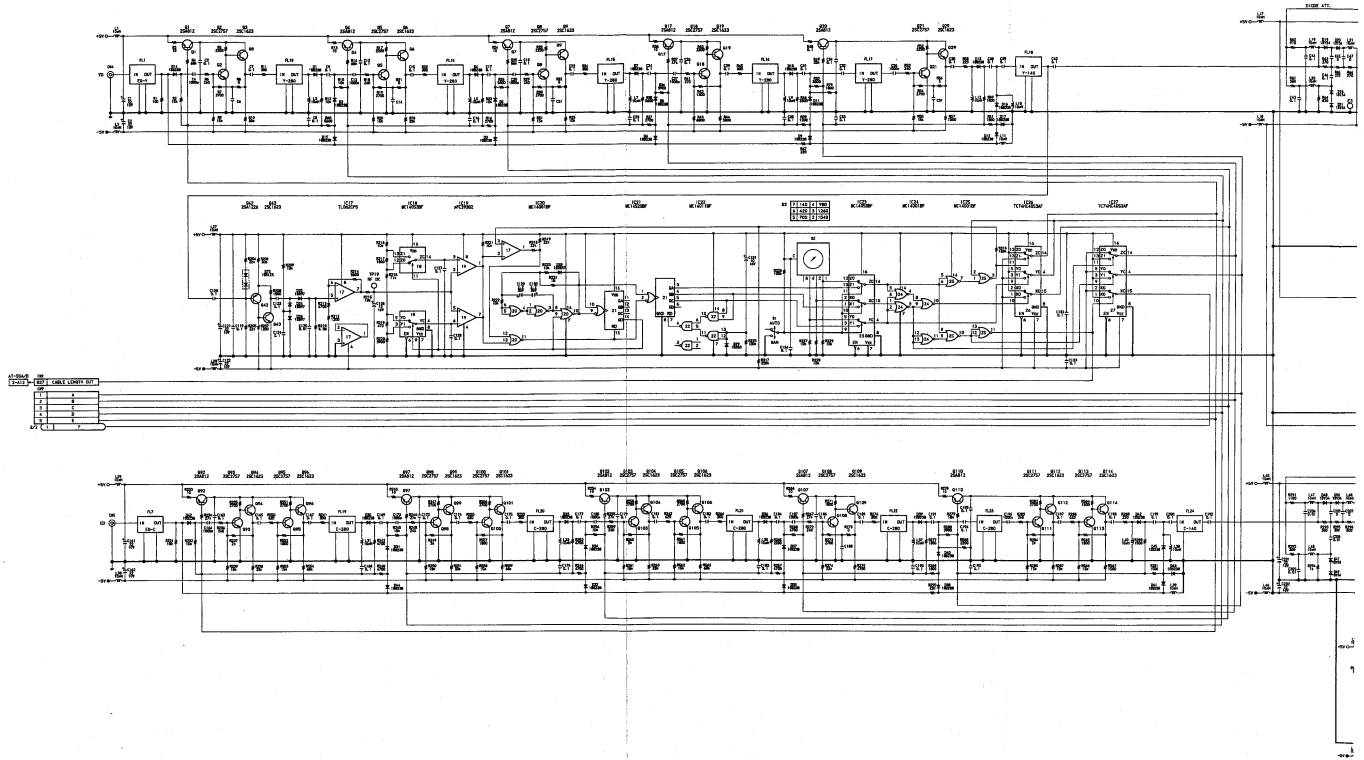


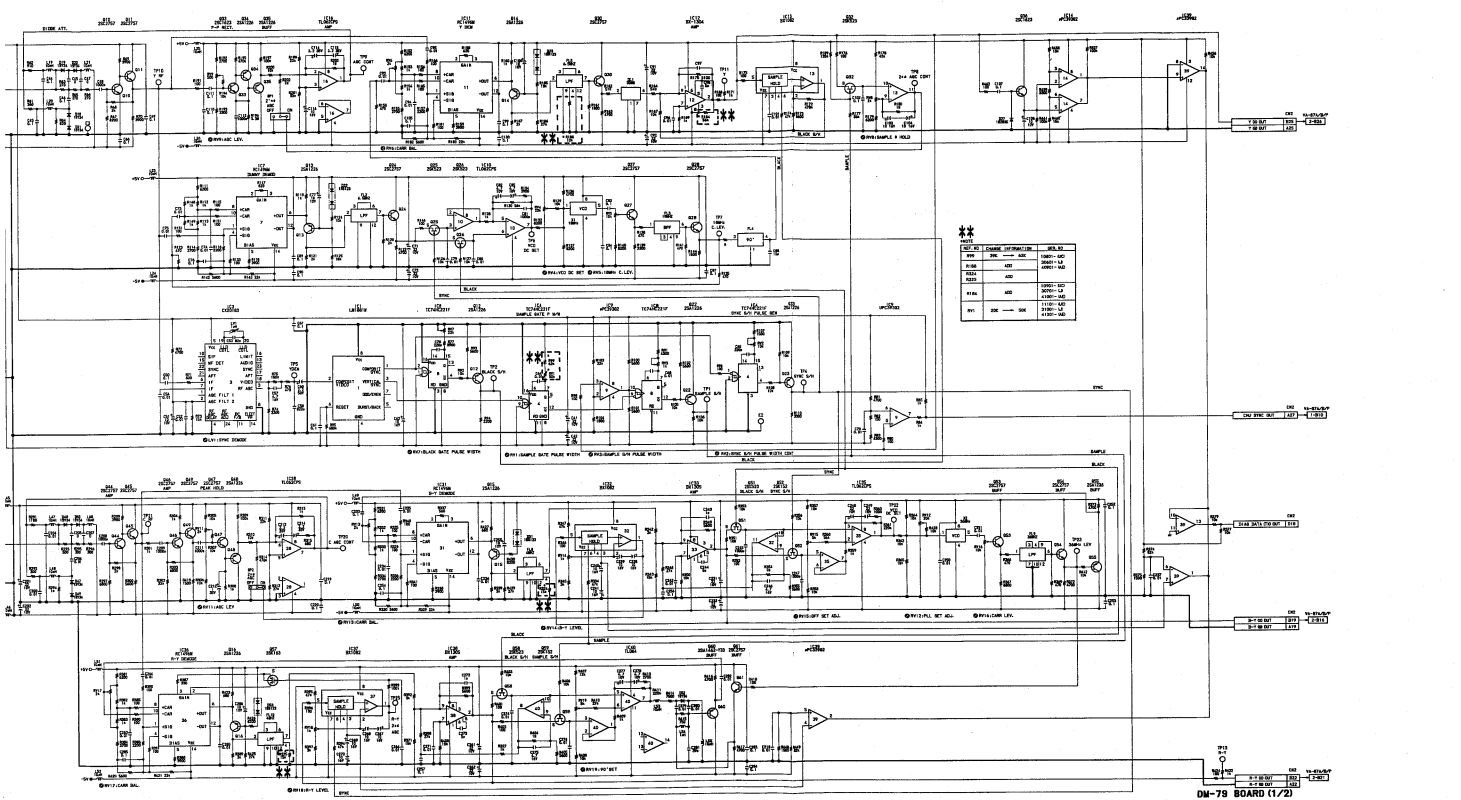
DM-79 BOARD (1/2)
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

B-CCU370-DM79M#1

C-39 (a)

C-40 (a)





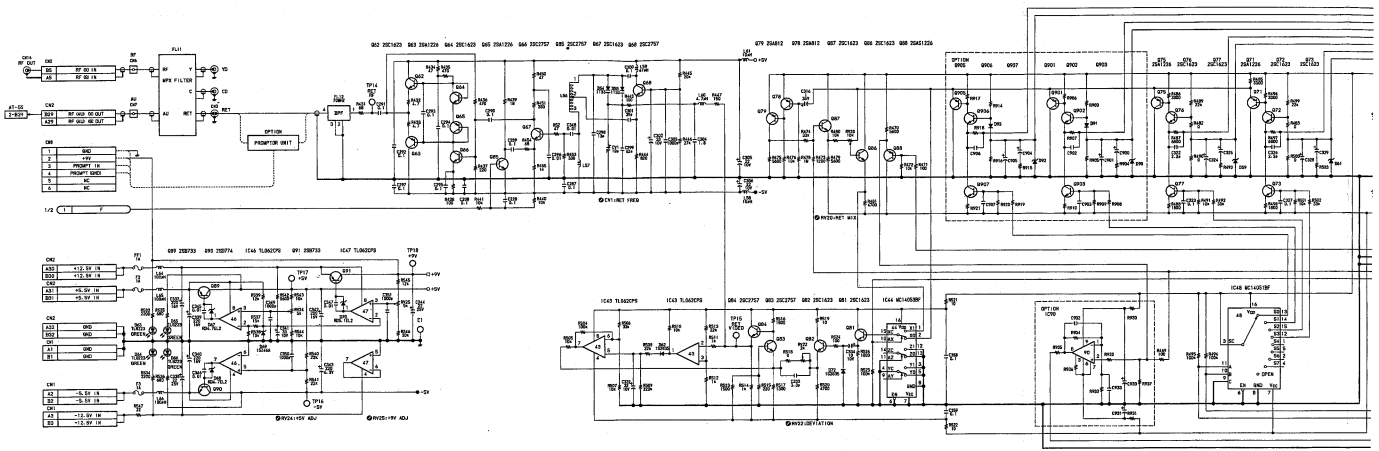
DM-79 BOARD (1/2)
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

C-39 (b)

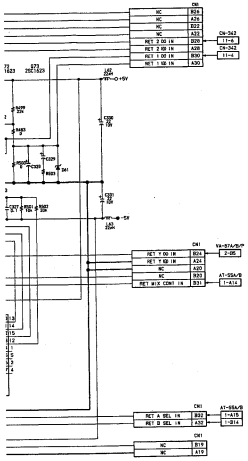
C-40 (b)

B-CCU-370-DM79M # 1/001LOT

Serial No. 10001 – 10335 (UC)
30001 – 30205 (J)
40001 – 40325 (AE)



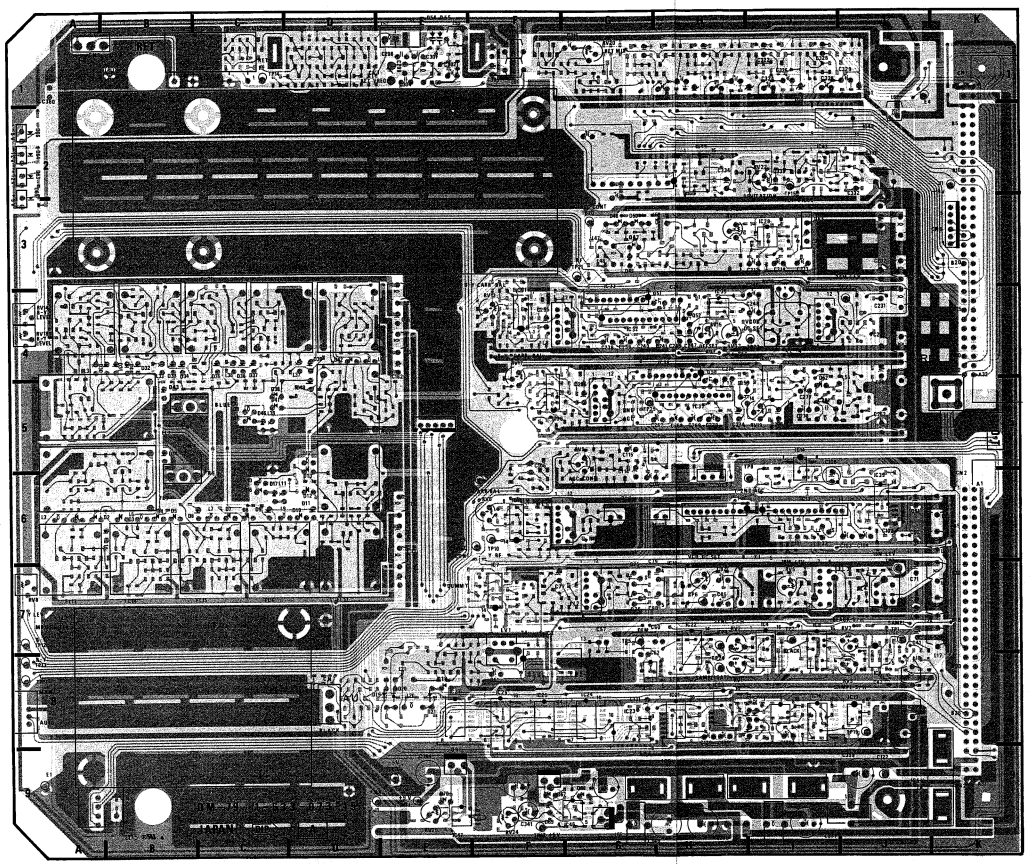
DM-79 BOARD (
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

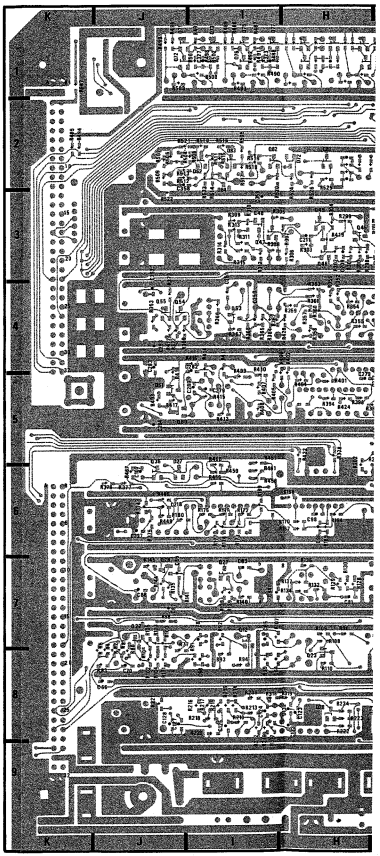


-79 BOARD (2/2)
J-370 (J)
J-370 (UC)
J-370P (AE)

DM-79 BOARD

Serial No.		
10901 –		(UC)
30701 –		(J)
40901 –		(AE)

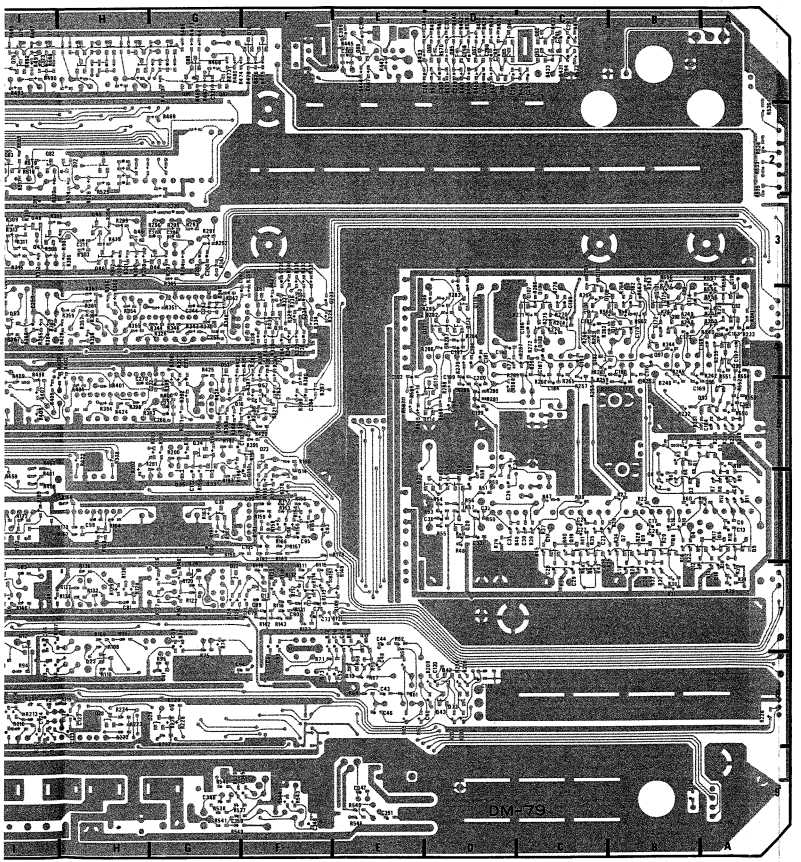




1-633-073-15 COMPONENT SIDE

C-33 (e)

C-34 (e)



1-633-073-15 SOLDERING SIDE

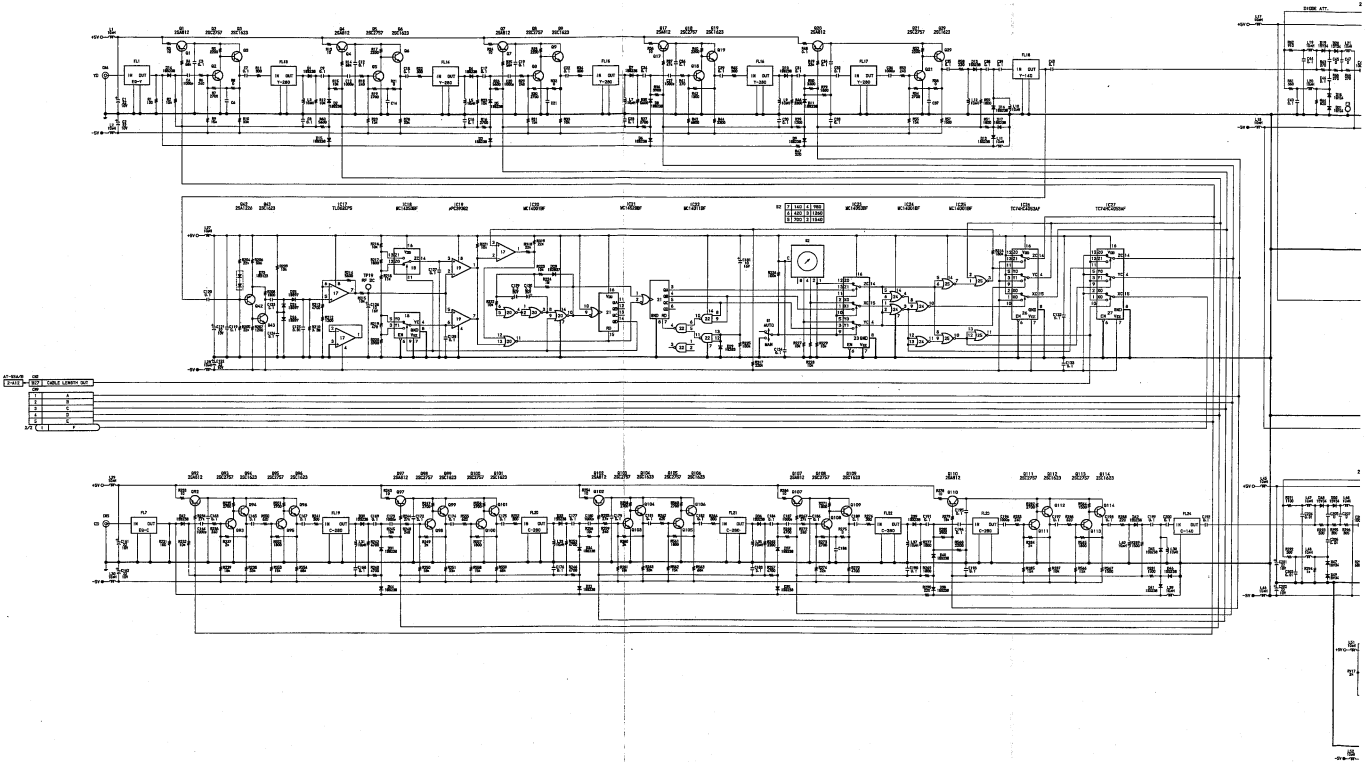
C-35 (e)

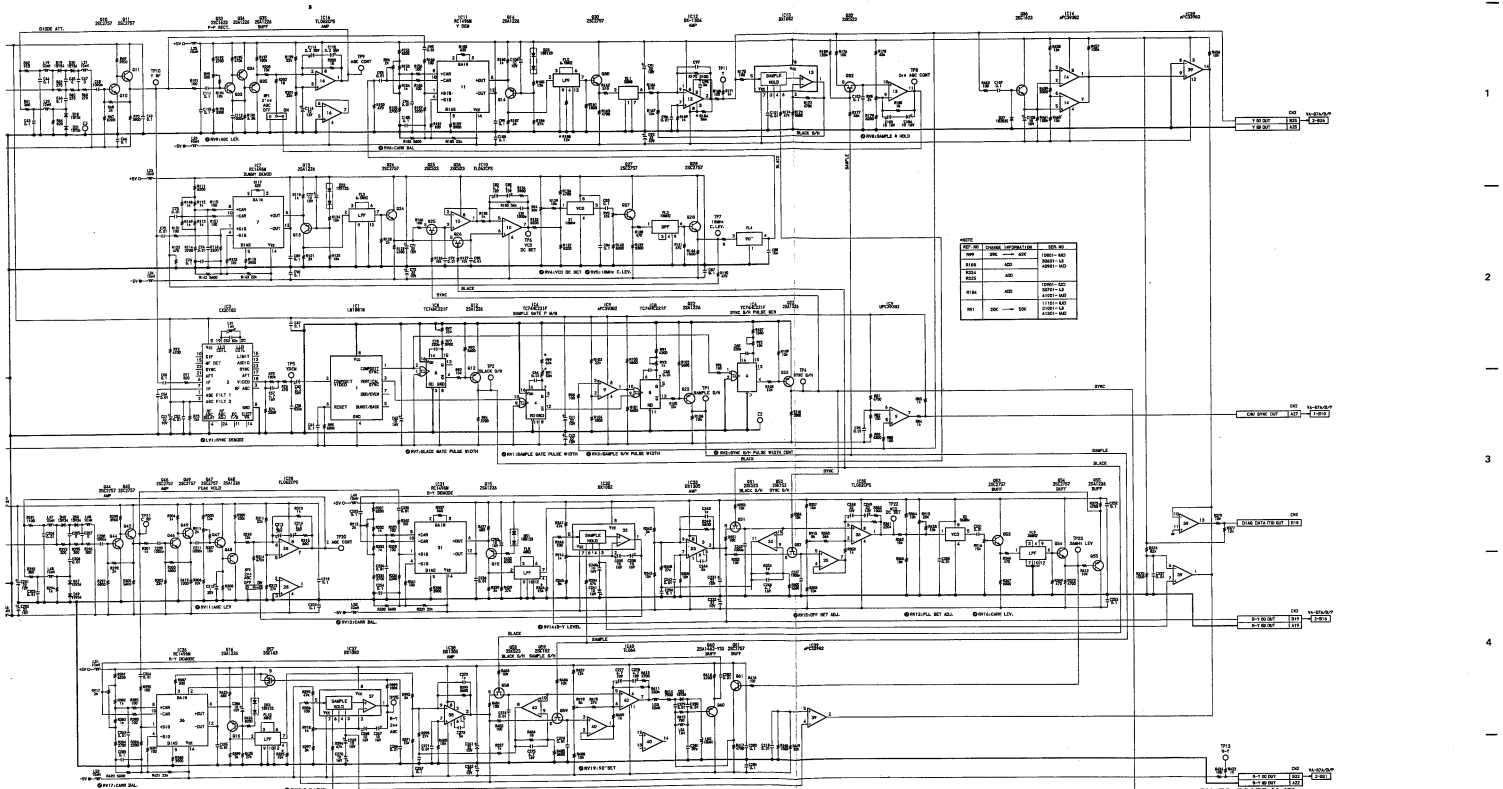
DM-79 1-633-073-15

CN1	K-1	D63	A-2	IC32	G-4	Q63	C-1	RV24	F-9
CN2	K-6	D64	A-2	IC33	G-4	Q64	D-1	RV25	E-9
CN3	A-1	D65	A-2	IC35	H-4	Q65	D-1		
CN4	B-5	D66	A-2	IC36	F-5	Q66	D-1	S1	A-8
CN5	B-5	D67	F-9	IC37	H-5	Q67	D-1	S2	A-9
CN6	K-4	D68	G-9	IC38	H-4	Q68	E-1		
CN7	D-8	D69	F-9	IC39	J-6	Q69	D-1	SP1	H-5
CN8	K-3	D70	E-9	IC40	I-4	Q71	J-1	SP2	I-3
CN9	E-5	D72	H-2	IC43	I-2	Q72	J-1		
		D73	D-8	IC44	H-2	Q73	I-1	TP1	J-7
CV1	E-1			IC46	G-9	Q75	I-1	TP2	I-7
		E1	A-9	IC47	E-9	Q76	I-1	TP4	H-7
DL1	G-6	E2	J-9	IC48	J-2	Q77	I-1	TP5	G-7
		E3	F-6			Q78	F-1	TP6	H-7
D1	A-6	E4	J-1	LV1	F-7	Q79	F-1	TP7	J-7
D2	B-6	E5	B-1			Q81	H-2	TP8	I-5
D3	B-6			Q1	B-5	Q82	I-2	TP9	E-6
D4	B-6	FL1	B-6	Q2	B-6	Q83	I-2	TP10	F-6
D5	B-6	FL2	G-7	Q3	A-5	Q84	I-2	TP11	A-8
D6	B-6	FL3	I-7	Q4	B-6	Q85	D-1	TP12	A-7
D7	C-6	FL4	J-7	Q5	A-6	Q86	G-1	TP13	A-8
D8	C-6	FL5	F-6	Q6	A-6	Q87	G-1	TP14	C-1
D9	C-6	FL7	B-5	Q7	B-6	Q88	G-1	TP15	I-2
D10	D-6	FL8	F-4	Q8	B-6	Q89	F-9	TP16	E-9
D11	D-6	FL9	I-4	Q9	B-6	Q90	G-9	TP17	F-9
D12	D-6	FL10	G-4	Q10	E-8	Q91	E-9	TP18	E-9
D13	D-6	FL11	A-7	Q11	E-7	Q92	A-4	TP19	J-8
D14	B-5	FL12	C-1	Q12	I-7	Q93	A-5	TP20	G-3
D15	B-6	FL13	A-7	Q13	F-7	Q94	A-4	TP21	G-3
D16	C-6	FL14	B-7	Q14	F-6	Q95	A-5	TP22	I-4
D17	C-6	FL15	C-7	Q15	F-4	Q96	A-4	TP23	J-4
D18	E-8	FL16	C-7	Q16	G-5	Q97	B-4	TP24	H-8
D19	E-8	FL17	D-7	Q17	C-6	Q98	B-4	TP25	G-5
D20	E-8	FL18	E-6	Q18	C-6	Q99	B-4		
D21	E-8	FL19	A-3	Q19	C-6	Q100	A-3	X1	I-6
D22	G-7	FL20	B-3	Q20	D-6	Q101	B-4	X2	I-4
D23	F-5	FL21	C-3	Q21	E-6	Q102	C-3		
D24	H-8	FL22	C-3	Q22	J-7	Q103	C-4		
D25	H-8	FL23	D-3	Q23	H-8	Q104	C-4		
D26	I-8	FL24	E-5	Q24	G-7	Q105	B-4		
D27	J-5			Q25	G-7	Q106	B-4		
D28	H-8	F1	I-9	Q26	G-7	Q107	C-4		
D29	G-8	F2	J-9	Q27	I-7	Q108	C-4		
D30	B-4	F3	H-9	Q28	J-7	Q109	C-4		
D31	B-4			Q29	D-6	Q110	D-4		
D32	B-4	IC1	G-8	Q30	G-6	Q111	D-4		
D33	B-4	IC3	F-7	Q32	I-6	Q112	D-4		
D34	B-4	IC4	I-7	Q33	G-6	Q113	D-5		
D35	C-4	IC7	F-7	Q34	G-5	Q114	D-5		
D36	C-4	IC8	I-7	Q35	G-6				
D37	C-4	IC9	J-8	Q36	J-5	RV1	H-8		
D38	C-5	IC10	H-7	Q42	D-8	RV2	H-7		
D39	D-4	IC11	F-6	Q43	D-8	RV3	J-8		
D40	D-5	IC12	H-6	Q44	G-3	RV4	H-7		
D41	C-5	IC13	I-6	Q45	H-3	RV5	I-7		
D42	D-4	IC14	I-5	Q46	H-3	RV6	F-6		
D43	B-5	IC16	H-5	Q47	I-3	RV7	J-7		
D44	B-4	IC17	I-8	Q48	I-3	RV8	A-7		
D45	C-5	IC18	I-8	Q49	H-3	RV9	G-5		
D46	C-5	IC19	J-8	Q51	H-4	RV11	H-3		
D47	G-3	IC20	H-8	Q52	H-4	RV12	H-4		
D48	G-3	IC21	H-8	Q53	I-4	RV13	F-4		
D49	G-3	IC22	H-7	Q54	J-4	RV14	A-4		
D50	G-3	IC23	G-8	Q55	J-4	RV15	H-4		
D51	F-4	IC24	G-8	Q57	F-5	RV16	I-3		
D52	I-5	IC25	F-8	Q58	H-4	RV17	F-4		
D53	G-4	IC26	F-8	Q59	H-5	RV18	A-4		
D54	E-1	IC27	E-8	Q60	J-5	RV19	I-5		
D55	E-1	IC28	I-3	Q61	J-5	RV20	G-1		
D62	I-2	IC31	F-4	Q62	C-1	RV22	I-2		

C-36 (e)

Serial No.		
10401	–	(UC)
30301	–	(J)
40401	–	(AE)





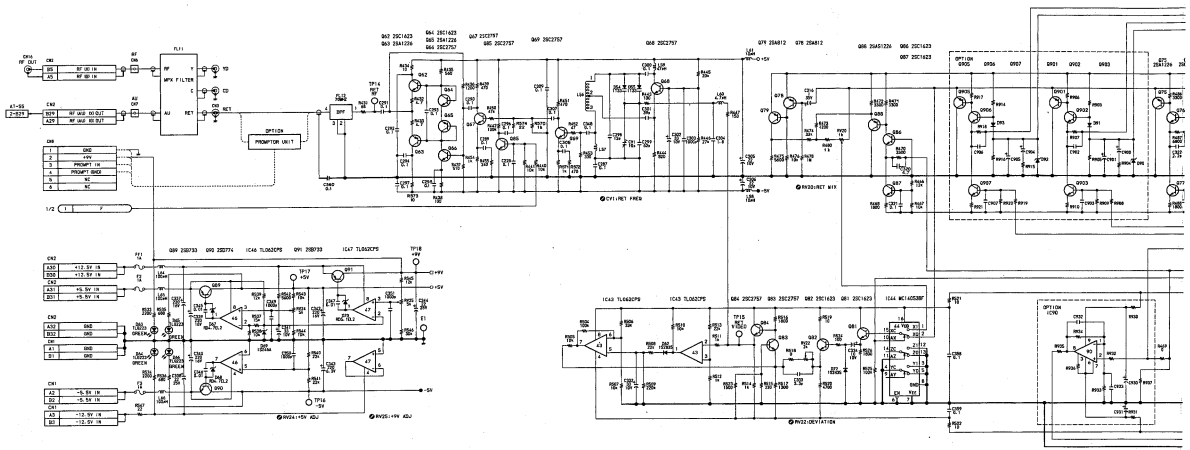
DM-79 BOARD (1/2)
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

C-39 (b)

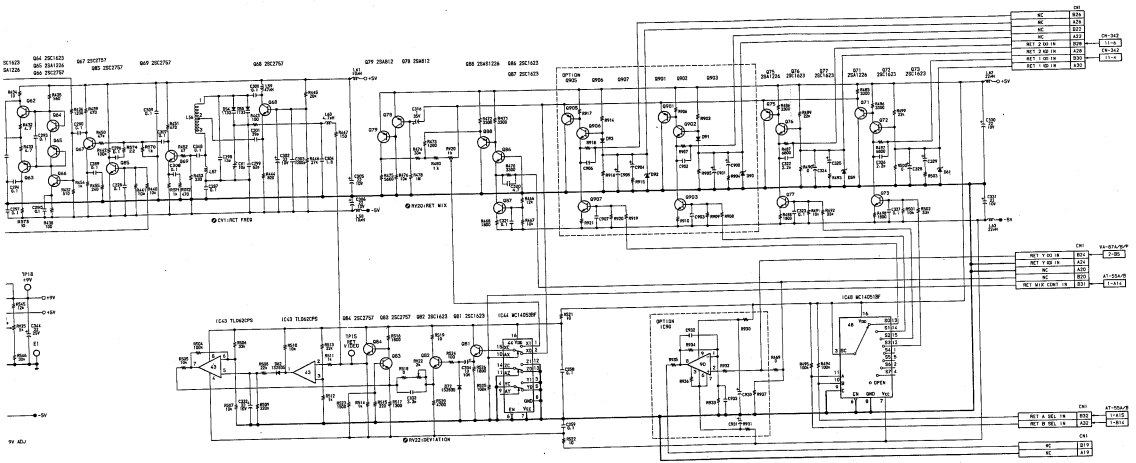
C-40 (b)

B-CCU-370-DM79M # 1/001LOT

Serial No.		
10401	–	(UC)
30301	–	(J)
40401	–	(AE)



DM-79 (2/2)



DM-79 BOARD (2/2)
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

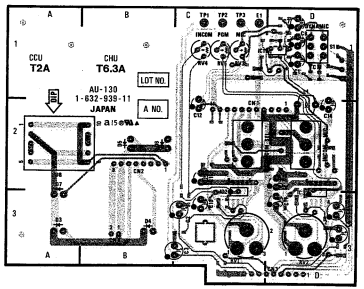
C-46 (b)

C-47 (b)

B-CCU-370-DM79M # 2/001LOT

AU-130 BOARD

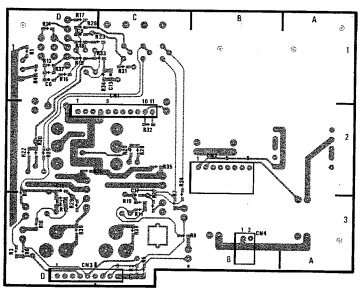
Serial No. 10001 – 10120 (UC)
30001 – 30115 (J)
40001 – 40125 (AE)



1-632-939-11 COMPONENT SIDE

AU-130 1-632-939-11

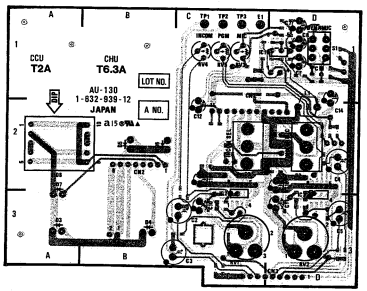
CN1	C-1
CN2	B-2
CN3	D-3
CN4	B-3
D1	D-1
D3	A-3
D4	B-3
D5	B-2
D6	B-2
D7	A-2
D8	A-2
E1	C-1
IC1	C-1
IC2	C-3
IC3	D-3
RV1	C-3
RV2	D-3
RV3	C-1
RV4	C-1
RV5	C-1
S1	D-1
S2	D-2
S3	C-2
TP1	C-1
TP2	C-1
TP3	C-1



1-632-939-11 SOLDERING SIDE

AU-130 BOARD

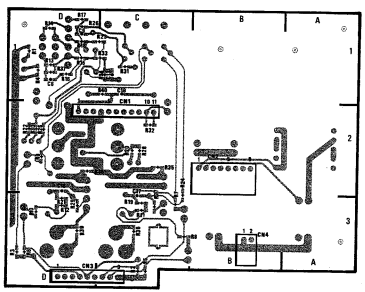
Serial No. 10201 – 10420 (UC)
30201 – 30305 (J)
40201 – 40425 (AE)



1-632-939-12 COMPONENT SIDE

AU-130 1-632-939-12

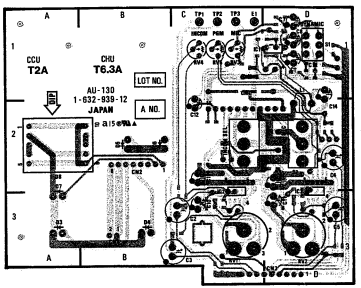
CN1	C-1
CN2	B-2
CN3	D-3
CN4	B-3
D1	D-1
D3	A-3
D4	B-3
D5	B-2
D6	B-2
D7	A-2
D8	A-2
E1	C-1
IC1	C-1
IC2	C-3
IC3	D-3
RV1	C-3
RV2	D-3
RV3	C-1
RV4	C-1
RV5	C-1
S1	D-1
S2	D-2
S3	C-2
TP1	C-1
TP2	C-1
TP3	C-1



1-632-939-12 SOLDERING SIDE

AU-130 BOARD

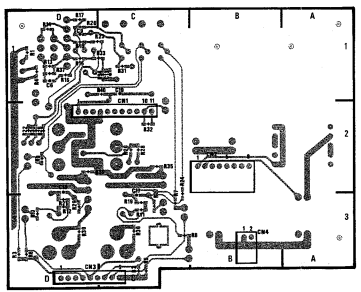
Serial No. 10201 – 10420 (UC)
30201 – 30305 (J)
40201 – 40425 (AE)



1-632-939-12 COMPONENT SIDE

AU-130 1-632-939-12

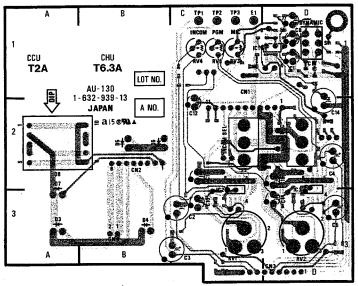
CN1	C-1
CN2	B-2
CN3	D-3
CN4	B-3
D1	D-1
D3	A-3
D4	B-3
D5	B-2
D6	B-2
D7	A-2
D8	A-2
E1	C-1
IC1	C-1
IC2	C-3
IC3	D-3
RV1	C-3
RV2	D-3
RV3	C-1
RV4	C-1
RV5	C-1
S1	D-1
S2	D-2
S3	C-2
TP1	C-1
TP2	C-1
TP3	C-1



1-632-939-12 SOLDERING SIDE

AU-130 BOARD

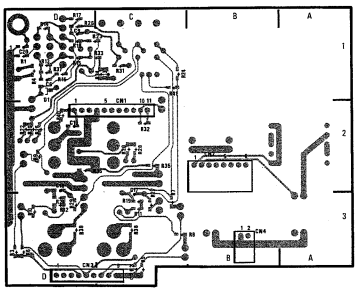
Serial No. 10501 – (UC)
30401 – (J)
40501 – (AE)



1-632-932-13 COMPONENT SIDE

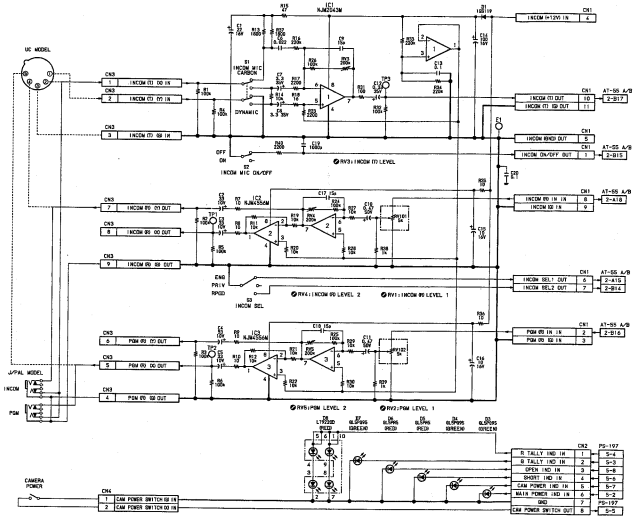
AU-130 1-632-939-13

CN1	C-1
CN2	B-2
CN3	D-3
CN4	B-3
D1	D-1
D3	A-3
D4	B-3
D5	B-2
D6	B-2
D7	A-2
D8	A-2
E1	C-1
IC1	C-1
IC2	C-3
IC3	D-3
RV1	C-3
RV2	D-3
RV3	C-1
RV4	C-1
RV5	C-1
S1	D-1
S2	D-2
S3	C-2
TP1	C-1
TP2	C-1
TP3	C-1



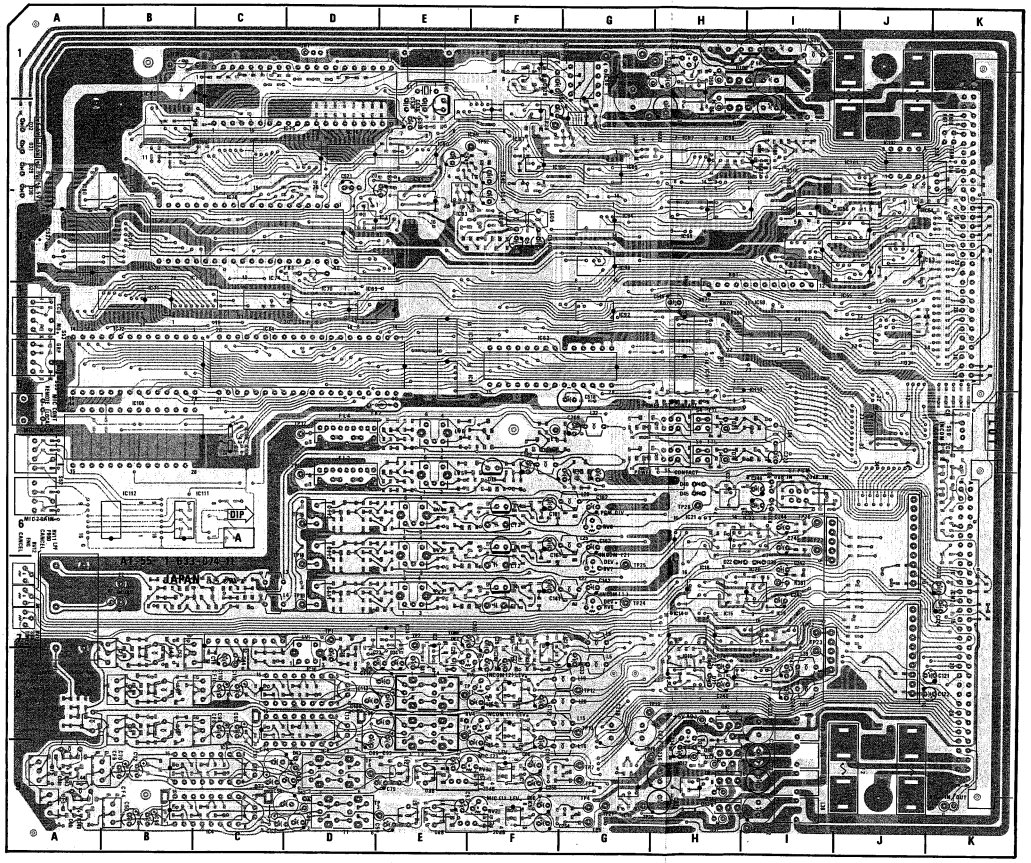
1-632-932-13 SOLDERING SIDE

AU-130 BOARD



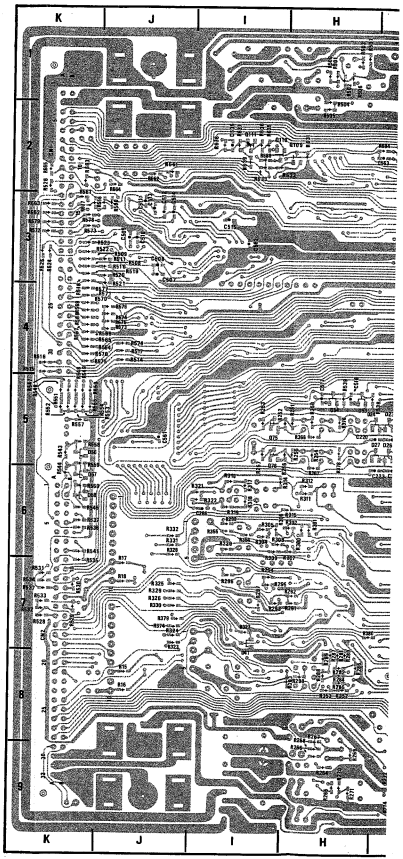
AU-130 BOARD
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

Serial No. 10001 – 10335 (UC)
30001 – 30205 (J)
40001 – 40325 (AE)

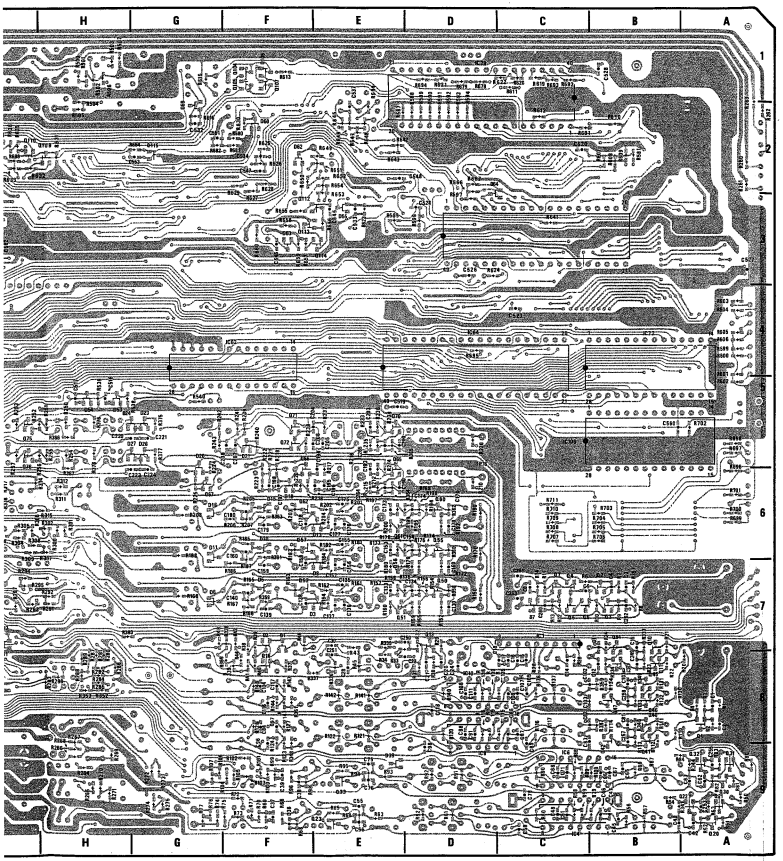


1-633-074-11 COMPONENT SIDE

C-55 (a)



C-56 (a)



1-633-074-11 SOLDERING SIDE

C-57 (a)

AT-55A/55B 1-633-074-11

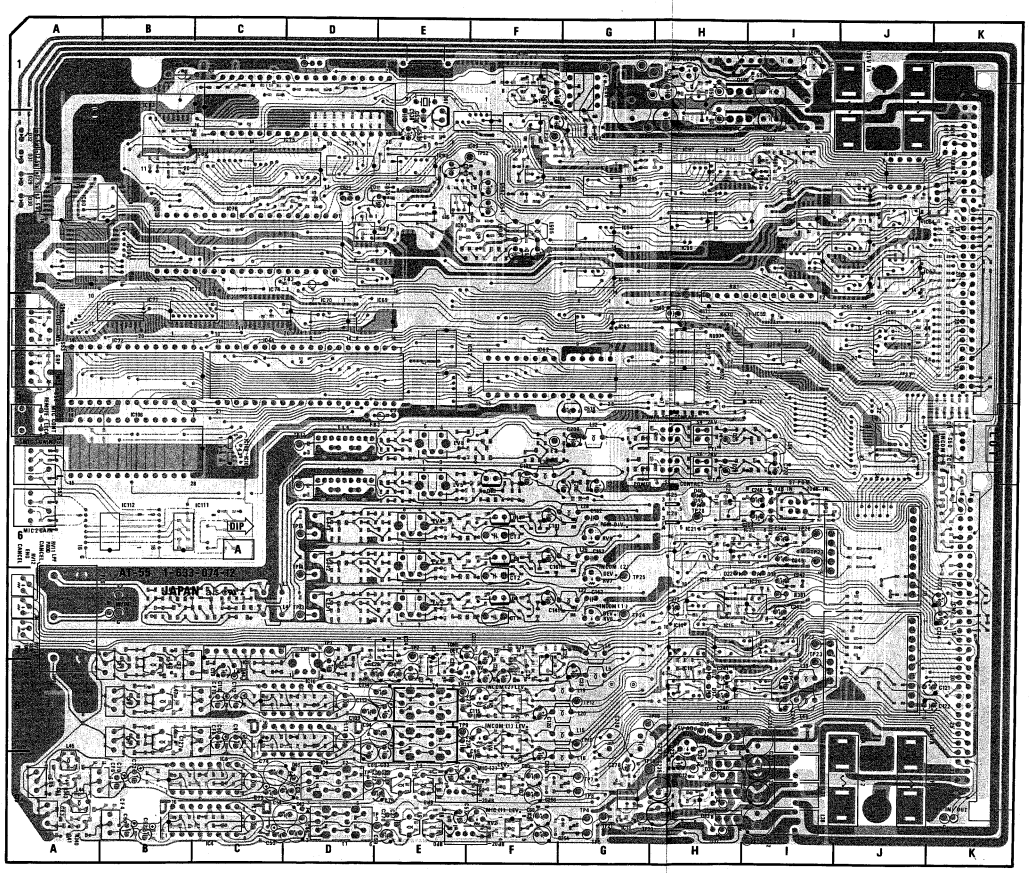
CF1	B-8	D52	H-2	IC64	C-4	Q30	A-9	S50	K-5
CF2	B-8	D53	H-5	IC65	F-5	Q31	A-9	S51	A-5
CF3	A-9	D54	H-5	IC66	J-4	Q32	A-9	S52	A-6
CF4	B-9	D55	E-3	IC68	C-2	Q33	E-9	S53	A-4
CF5	A-9	D56	K-5	IC69	D-4	Q40	B-8	S54	A-4
CF6	B-9	D57	K-6	IC70	D-4	Q41	B-9	S55	A-5
CF7	B-8	D58	K-6	IC71	B-4	Q42	B-9	S56	K-2
CF8	C-8	D59	G-2	IC72	B-4	Q45	B-8		
CF9	B-8	D60	F-2	IC73	B-3	Q46	B-8	T1	D-9
CF10	C-8	D61	E-1	IC74	C-3	Q47	B-8	T2	D-9
CF11	D-7	D62	F-2	IC75	C-2	Q50	D-7	T3	E-9
CF12	D-6	D63	F-3	IC76	D-2	Q51	E-7	T4	E-8
CF13	D-6	D64	D-2	IC77	E-3	Q52	F-7		
				IC78	C-3	Q55	D-6	TP1	D-7
CN164	C-4	E1	I-9	IC79	E-3	Q56	E-7	TP2	E-7
CN172	B-4	E2	B-7	IC80	A-2	Q57	F-6	TP3	E-9
CN178	C-3	E3	F-5	IC81	B-2	Q60	D-6	TP4	G-9
CN184	C-1	E50	G-1	IC83	B-1	Q61	E-6	TP5	G-9
CN1106	B-5	E51	A-2	IC84	C-1	Q62	F-6	TP6	D-9
				IC85	F-1	Q65	E-5	TP7	G-9
CN1	K-3	FB2	D-5	IC86	G-1	Q66	F-5	TP8	G-9
CN2	K-7	FB3	D-3	IC87	F-2	Q67	G-6	TP9	E-8
		FB5	B-1	IC89	F-2	Q70	E-5	TP10	G-8
D1	F-7			IC90	E-2	Q71	F-5	TP11	F-8
D2	F-7	FL3	D-5	IC91	E-2	Q72	F-5	TP12	G-8
D3	F-7	FL4	D-5	IC92	G-4	Q75	I-3	TP13	D-7
D4	F-7	FL5	A-7	IC93	E-3	Q76	I-3	TP14	D-6
D5	F-7			IC94	G-3	Q80	H-9	TP15	D-6
D6	G-7	F1	K-9	IC95	G-2	Q81	H-9	TP16	D-6
D7	C-7	F2	J-9	IC96	G-3	Q82	H-8	TP17	D-5
D8	E-7	F3	K-1	IC97	H-2	Q83	H-9	TP18	G-9
D9	F-6	F4	J-1	IC98	H-2	Q84	B-7	TP19	H-8
D10	F-6			IC99	H-3	Q100	H-1	TP20	G-9
D11	G-6	IC1	C-8	IC100	H-3	Q101	H-2	TP21	G-9
D12	H-8	IC2	G-7	IC101	J-2	Q104	F-1	TP22	I-7
D13	E-6	IC3	E-7	IC102	J-2	Q105	F-1	TP23	I-7
D14	F-6	IC4	C-9	IC104	B-3	Q106	F-1	TP24	G-7
D15	F-6	IC5	F-9	IC105	F-2	Q107	F-1	TP25	G-7
D16	G-6	IC6	C-9	IC106	B-5	Q109	H-2	TP26	I-6
D17	H-8	IC7	F-9	IC107	G-2	Q110	I-2	TP27	I-6
D18	F-6	IC8	D-8	IC108	C-5	Q111	I-2	TP28	H-6
D19	F-6	IC9	F-9	IC109	C-5	Q112	F-3	TP50	G-1
D20	G-5	IC10	D-8	IC110	H-5	Q113	F-3	TP51	G-2
D21	F-5	IC11	F-8	IC111	C-6	Q114	E-3	TP52	F-2
D22	H-7	IC12	H-9	IC112	B-6	Q115	G-2	TP53	G-1
D23	G-5	IC13	G-9	IC113	H-4	Q116	I-2		
D24	H-5	IC14	H-7					X1	E-1
D25	H-5	IC15	H-7	LV1	D-7	RB1	H-4		
D26	G-5	IC16	H-8	LV2	E-7				
D27	H-5	IC17	I-8	LV3	E-6	RV1	F-8		
D28	H-5	IC18	H-7	LV4	E-6	RV2	F-9		
D29	A-2	IC19	I-7	LV5	E-6	RV3	F-9		
D30	A-2	IC20	I-7	LV6	E-5	RV4	F-8		
D31	A-2	IC21	H-6			RV5	F-8		
D32	A-2	IC22	I-6	Q2	B-7	RV6	G-7		
D33	H-9	IC23	H-6	Q3	B-7	RV7	G-7		
D34	H-9	IC24	E-7	Q4	C-7	RV8	G-6		
D35	H-9	IC50	H-2	Q5	C-7	RV9	H-8		
D36	H-8	IC51	I-1	Q6	C-7	RV11	A-6		
D37	H-9	IC52	E-4	Q7	C-7	RV12	A-6		
D38	I-7	IC53	J-3	Q10	B-7	RV13	A-7		
D39	E-9	IC54	J-3	Q11	B-8	RV50	H-1		
D40	H-6	IC55	J-4	Q12	B-8				
D41	I-8	IC56	J-3	Q13	D-7	S1	F-9		
D42	D-9	IC57	I-3	Q15	F-7	S2	F-9		
D43	D-9	IC58	I-3	Q16	F-8	S3	H-5		
D44	C-8	IC59	I-4	Q20	A-9	S4	H-5		
D45	H-6	IC61	H-4	Q21	A-9	S5	H-6		
D50	H-1	IC62	F-4	Q22	A-9	S6	H-5		
D51	G-1	IC63	K-5	Q23	E-9	S7	I-6		

C-58 (a)

CCU-370/P

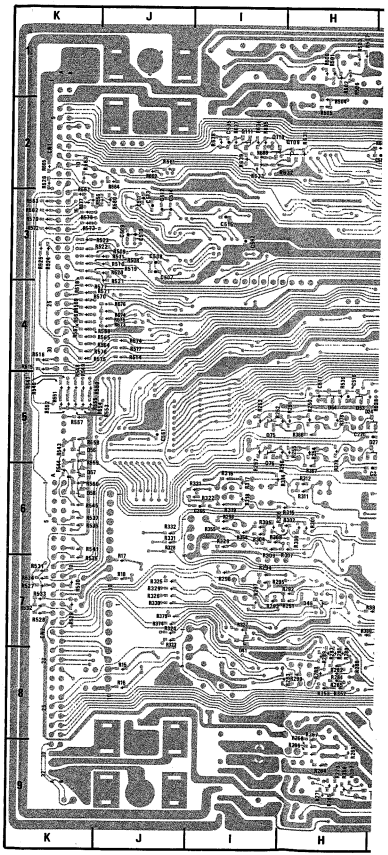
AT-55A/55B BOARD

Serial No. 10401 – 10500 (UC)
30301 – 30400 (J)
40401 – 40600 (AE)

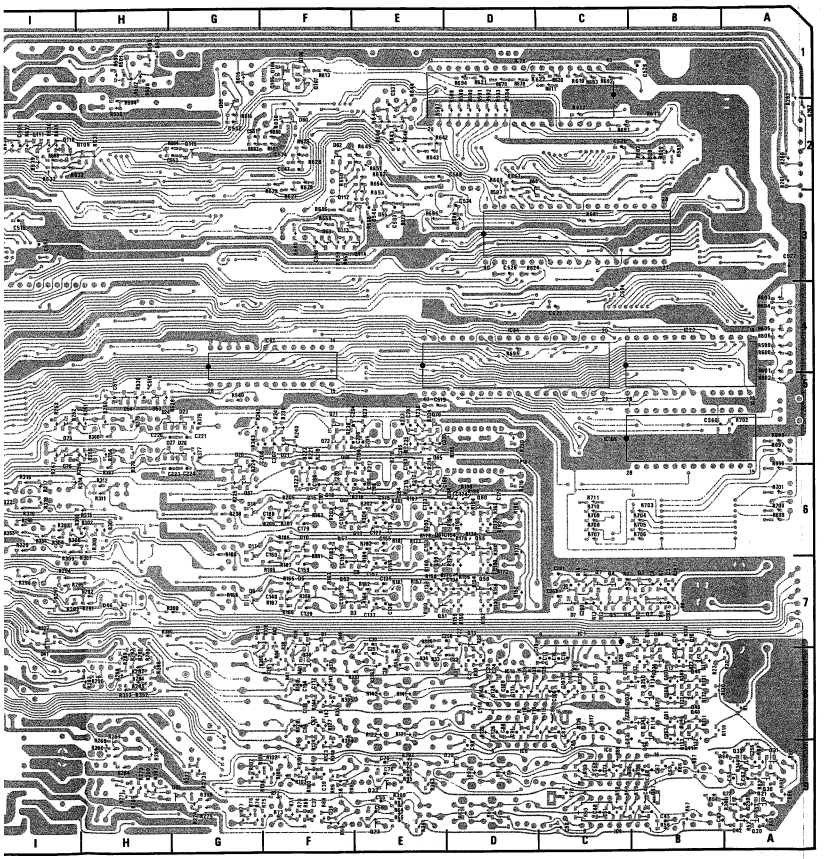


1-633-074-12 COMPONENT SIDE

C-55 (b)



C-56 (b)



1-633-074-12 SOLDERING SIDE

C-57 (b)

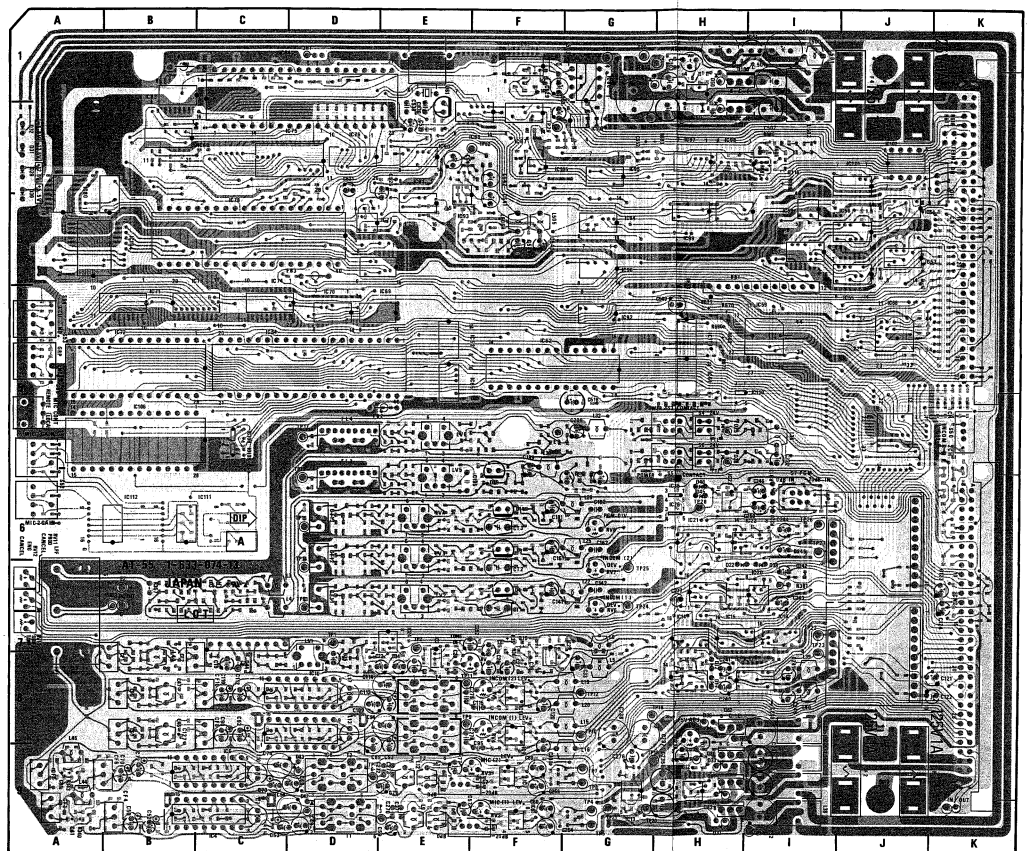
AT-55A/55B 1-633-074-12

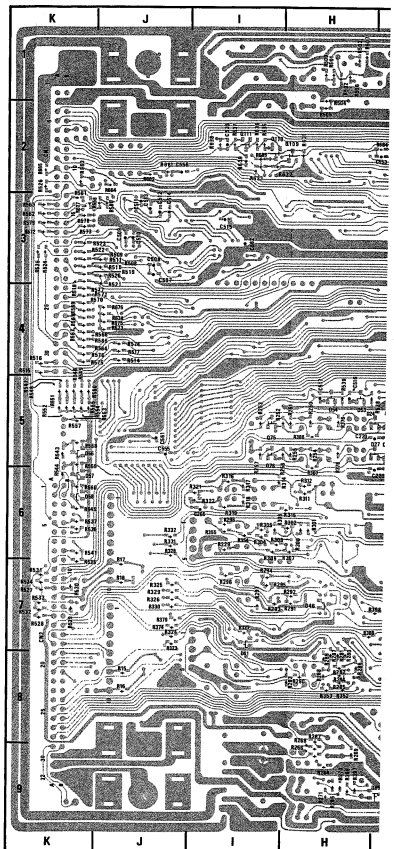
CF1	B-8	D51	G-1	IC61	H-4	Q21	A-9	S4	H-5
CF2	B-8	D52	H-2	IC62	F-4	Q22	A-9	S5	H-6
CF3	A-9	D53	H-5	IC63	K-5	Q23	E-9	S6	H-5
CF4	B-9	D54	H-5	IC64	C-4	Q30	A-9	S7	I-6
CF5	A-9	D55	E-3	IC65	F-5	Q31	A-9	S50	K-5
CF6	B-9	D56	K-5	IC66	J-4	Q32	A-9	S51	A-5
CF7	B-8	D57	K-6	IC68	C-2	Q33	E-9	S52	A-6
CF8	C-8	D58	K-6	IC69	E-4	Q40	B-8	S53	A-4
CF9	B-8	D59	G-2	IC70	D-4	Q41	B-9	S54	A-4
CF10	C-8	D60	F-2	IC71	B-4	Q42	B-9	S55	A-5
CF11	D-7	D61	E-1	IC72	B-4	Q45	B-8	S56	K-2
CF12	D-6	D62	F-2	IC73	B-3	Q46	B-8		
CF13	D-6	D63	F-3	IC74	C-3	Q47	B-8	T1	D-9
		D64	D-2	IC75	C-2	Q50	D-7	T2	D-9
CN164	C-4			IC76	D-2	Q51	E-7	T3	E-9
CN172	B-4	E1	I-9	IC77	E-3	Q52	F-7	T4	E-8
CN178	C-3	E2	B-7	IC78	C-3	Q55	D-6		
CN184	C-1	E3	F-5	IC79	E-3	Q56	E-7	TP1	D-7
CN1106	B-5	E50	G-1	IC80	A-2	Q57	F-6	TP2	E-7
		E51	A-2	IC81	B-2	Q60	D-6	TP3	E-9
CN1	K-3			IC83	B-1	Q61	E-6	TP4	G-9
CN2	K-7	FB2	D-5	IC84	C-1	Q62	F-6	TP5	G-9
		FB3	D-3	IC85	G-9	Q65	E-5	TP6	D-9
D1	F-7	FB5	B-1	IC86	G-1	Q66	F-5	TP7	G-9
D2	F-7			IC87	F-2	Q67	G-6	TP8	G-9
D3	F-7	FL3	D-5	IC89	F-2	Q70	E-5	TP9	E-8
D4	F-7	FL4	D-5	IC90	E-2	Q71	F-5	TP10	G-8
D5	F-7	FL5	A-7	IC91	E-2	Q72	F-5	TP11	E-8
D6	G-7			IC92	G-4	Q75	I-3	TP12	G-8
D7	C-7	F1	K-9	IC93	E-3	Q76	I-3	TP13	D-7
D8	E-7	F2	J-9	IC94	G-3	Q80	H-9	TP14	I-6
D9	F-6	F3	K-1	IC95	G-2	Q81	H-9	TP15	D-6
D10	F-6	F4	J-1	IC96	G-3	Q82	H-8	TP16	D-6
D11	G-6			IC97	H-2	Q83	H-9	TP17	D-5
D12	H-8	IC1	C-8	IC98	H-2	Q84	B-7	TP18	G-9
D13	E-6	IC2	G-7	IC99	H-3	Q85	G-9	TP19	H-8
D14	F-6	IC3	E-7	IC100	H-3	Q100	H-1	TP20	G-9
D15	F-6	IC4	C-9	IC101	J-2	Q101	H-2	TP21	G-9
D16	G-6	IC5	F-9	IC102	J-2	Q104	F-1	TP22	I-7
D17	H-8	IC6	C-9	IC104	B-3	Q105	F-1	TP23	I-7
D18	F-6	IC7	F-9	IC105	F-2	Q106	F-1	TP24	G-7
D19	F-6	IC8	D-8	IC106	B-5	Q107	F-1	TP25	G-7
D20	G-5	IC9	F-9	IC107	G-2	Q109	H-2	TP26	I-6
D21	F-5	IC10	D-8	IC108	C-5	Q110	I-2	TP27	I-6
D22	H-7	IC11	F-8	IC109	C-5	Q111	I-2	TP28	H-6
D23	G-5	IC12	H-9	IC110	H-5	Q112	F-3	TP50	G-1
D24	H-5	IC13	G-9	IC111	C-6	Q113	F-3	TP51	G-2
D25	H-5	IC14	H-7	IC112	B-6	Q114	E-3	TP52	F-2
D26	G-5	IC15	H-7	IC113	H-4	Q115	G-2	TP53	G-1
D27	H-5	IC16	H-8			Q116	I-2		
D28	H-5	IC17	I-8	LV1	D-7			X1	E-1
D29	A-2	IC18	H-7	LV2	E-7	RB1	H-4		
D30	A-2	IC19	I-7	LV3	E-6				
D31	A-2	IC20	I-7	LV4	E-6	RV1	F-8		
D32	A-2	IC21	H-6	LV5	E-6	RV2	F-9		
D33	H-9	IC22	I-6	LV6	E-5	RV3	F-9		
D34	H-9	IC23	H-6			RV4	F-8		
D35	H-9	IC24	E-7	Q2	B-7	RV5	F-8		
D36	H-8	IC25	H-6	Q3	B-7	RV6	G-7		
D37	H-9	IC26	H-6	Q4	C-7	RV7	G-7		
D38	I-7	IC50	H-2	Q5	C-7	RV8	G-6		
D39	D-9	IC51	I-1	Q6	C-7	RV9	H-8		
D40	H-6	IC52	E-4	Q7	C-7	RV11	A-6		
D41	I-8	IC53	J-3	Q10	B-7	RV12	A-6		
D42	D-9	IC54	J-3	Q11	B-8	RV13	A-7		
D43	D-9	IC55	J-4	Q12	B-8	RV50	H-1		
D44	C-8	IC56	J-3	Q13	D-7				
D45	H-6	IC57	I-3	Q15	F-7	S1	F-9		
D46	H-7	IC58	I-3	Q16	F-8	S2	F-9		
D50	H-1	IC59	I-4	Q20	A-9	S3	H-5		

C-58 (b)

CCU-370/

Serial No.		
10501 –		(UC)
30401 –		(J)
40601 –		(AE)

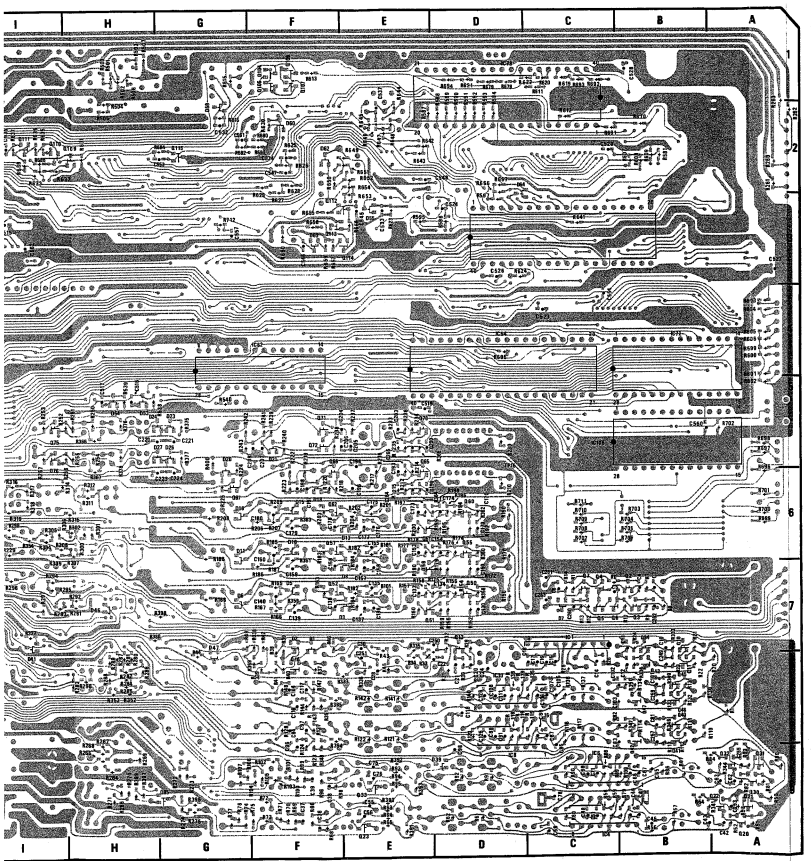




1-633-074-13 COMPONENT SIDE

C-55 (C)

C-56 (C)

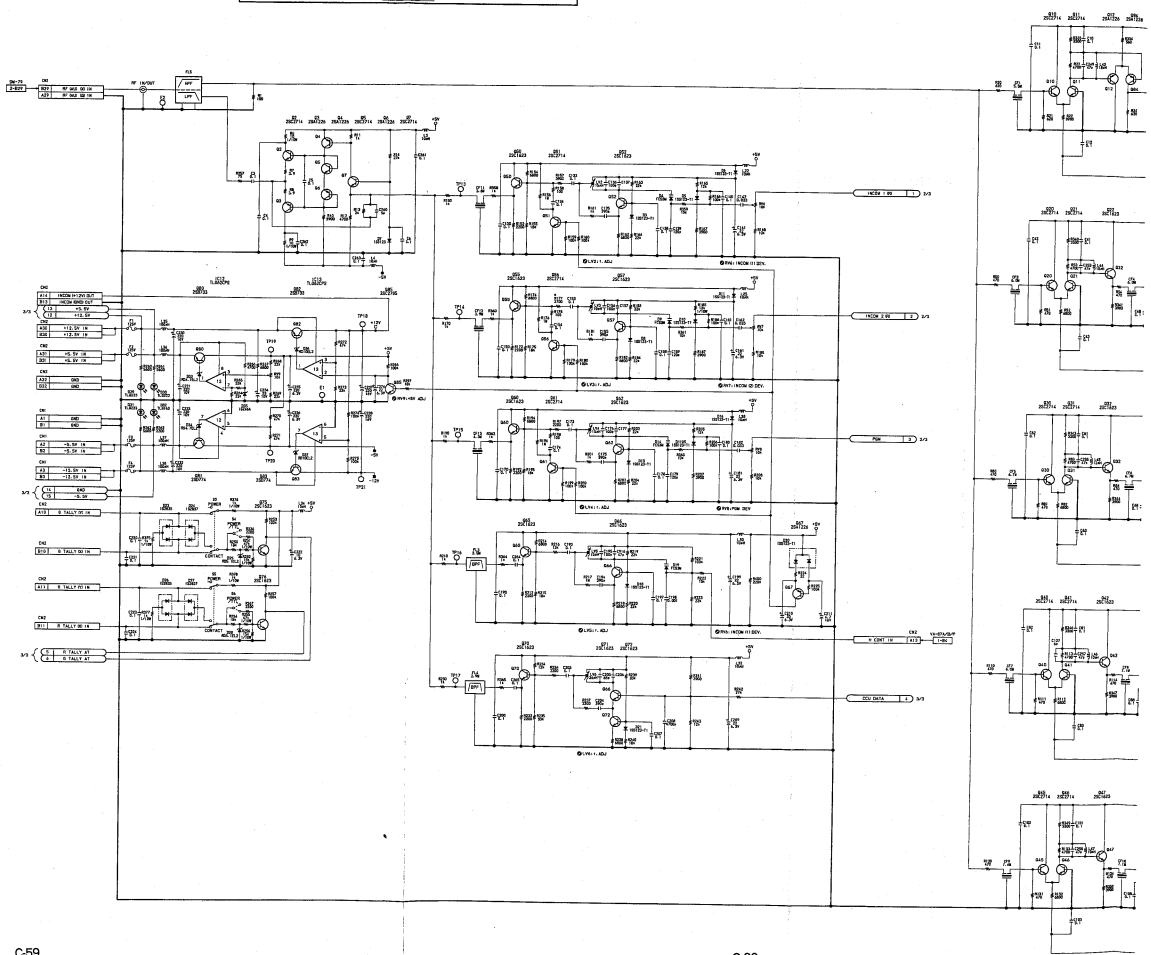


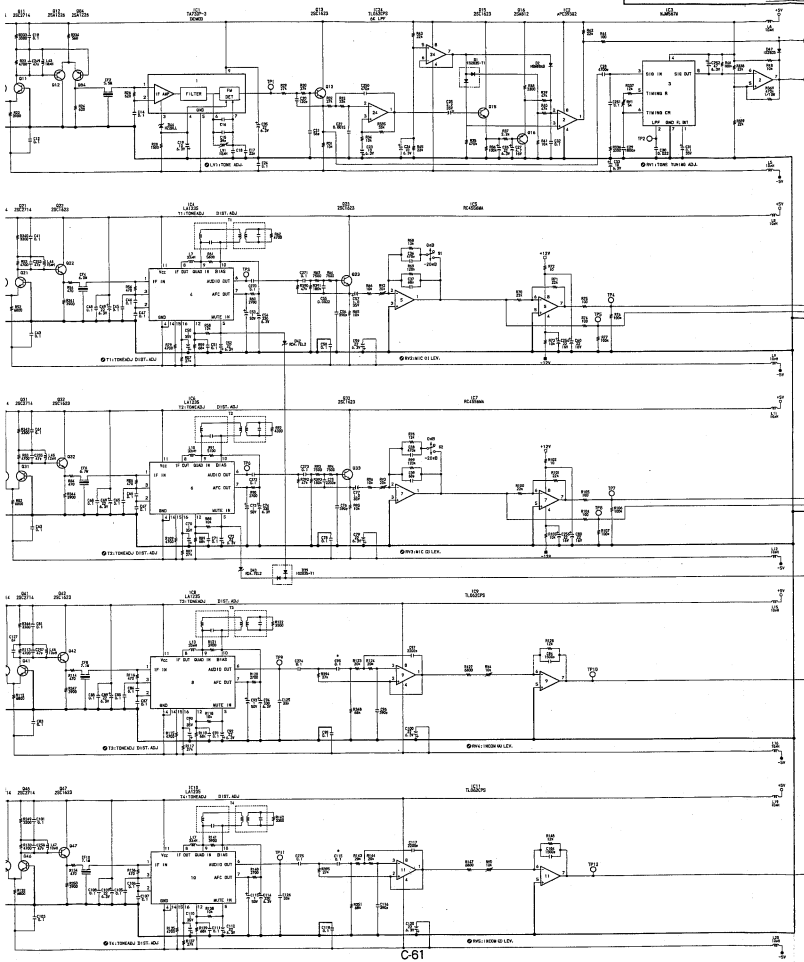
1-633-074-13 SOLDERING SIDE

AT-55A/55B 1-633-074-13

CF1	B-8	D51	G-1	IC62	F-4	Q30	A-9	S50	K-5
CF2	B-8	D52	H-2	IC63	K-5	Q31	A-9	S51	A-5
CF3	A-9	D53	H-5	IC64	C-4	Q32	A-9	S52	A-6
CF4	B-9	D54	H-5	IC65	F-5	Q33	E-9	S53	A-4
CF5	A-9	D55	E-3	IC66	J-4	Q40	B-8	S54	A-4
CF6	B-9	D56	K-5	IC68	C-2	Q41	B-9	S55	A-5
CF7	B-8	D57	K-6	IC69	E-4	Q42	B-9	S56	K-2
CF8	C-8	D58	K-6	IC70	D-4	Q45	B-8		
CF9	B-8	D59	G-2	IC71	B-4	Q46	B-8	T1	D-9
CF10	C-8	D60	F-2	IC73	C-3	Q47	B-8	T2	D-9
CF11	D-7	D61	E-1	IC74	C-3	Q50	D-7	T3	E-9
CF12	D-6	D62	F-2	IC75	D-2	Q51	E-7	T4	E-8
CF13	D-6	D63	F-3	IC76	D-2	Q52	F-7		
		D64	C-2	IC77	E-3	Q55	D-6	TP1	D-7
CN164	C-4			IC78	C-3	Q56	E-7	TP2	E-7
CN172	B-4	E1	I-9	IC79	E-3	Q57	F-6	TP3	E-9
CN178	C-3	E2	B-7	IC80	A-3	Q60	D-6	TP4	G-9
CN184	C-1	E3	F-5	IC81	B-2	Q61	E-6	TP5	G-9
CN1106	B-5	E50	G-1	IC83	B-1	Q62	F-6	TP6	D-9
		E51	A-2	IC84	C-1	Q65	E-5	TP7	G-9
CN1	K-3			IC85	F-1	Q66	F-5	TP8	G-9
CN2	K-7	FB2	E-5	IC86	G-1	Q67	G-5	TP9	E-8
		FB3	D-3	IC87	F-2	Q70	E-5	TP10	G-8
D1	F-7	FB5	B-1	IC89	F-2	Q71	F-5	TP11	E-8
D2	F-7			IC90	E-2	Q72	F-5	TP12	G-8
D3	F-7	FL3	D-5	IC91	E-2	Q75	I-5	TP13	D-7
D4	F-7	FL4	D-5	IC92	G-4	Q76	I-5	TP14	D-6
D5	F-7	FL5	B-7	IC93	E-3	Q80	H-9	TP15	D-6
D6	G-7			IC94	G-3	Q81	H-9	TP16	D-6
D7	C-7	F1	K-9	IC95	G-2	Q82	H-8	TP17	D-5
D8	E-7	F2	J-9	IC96	G-3	Q83	H-9	TP18	G-9
D9	F-6	F3	K-1	IC97	H-2	Q84	B-7	TP19	H-8
D10	F-6	F4	J-1	IC98	H-2	Q85	G-9	TP20	G-9
D11	G-6			IC99	H-3	Q100	H-1	TP21	G-9
D12	H-8	IC1	C-8	IC100	H-3	Q101	H-2	TP22	I-7
D13	E-6	IC2	G-7	IC101	J-2	Q104	F-1	TP23	I-7
D14	F-6	IC3	E-7	IC102	J-2	Q105	F-1	TP24	G-7
D15	F-6	IC4	C-9	IC104	B-3	Q106	F-1	TP25	G-7
D16	G-6	IC5	F-9	IC105	F-2	Q107	F-1	TP26	I-6
D17	H-8	IC6	C-9	IC106	B-5	Q109	H-2	TP27	I-6
D18	F-6	IC7	F-9	IC107	G-2	Q110	I-2	TP28	H-6
D19	F-6	IC8	D-9	IC108	C-5	Q111	I-2	TP50	G-1
D20	G-5	IC9	F-9	IC109	C-5	Q112	F-3	TP51	G-2
D21	F-5	IC10	D-8	IC110	H-5	Q113	F-3	TP52	F-2
D22	H-7	IC11	F-8	IC111	C-6	Q114	E-3	TP53	G-1
D23	G-5	IC12	H-9	IC112	B-6	Q115	G-2		
D24	H-5	IC13	G-9	IC113	H-4	Q116	I-2	X1	E-1
D25	H-5	IC14	H-7						
D26	G-5	IC15	H-7	LV1	D-7	RB1	H-3		
D27	G-5	IC16	H-8	LV2	E-7				
D28	H-5	IC17	I-8	LV3	E-6	RV1	F-8		
D29	A-2	IC18	H-7	LV4	E-6	RV2	F-9		
D30	A-2	IC19	I-7	LV5	E-6	RV3	F-9		
D31	A-2	IC20	I-7	LV6	E-5	RV4	F-8		
D32	A-2	IC21	H-6			RV5	F-8		
D33	H-9	IC22	I-6	Q2	B-7	RV6	G-7		
D34	H-9	IC23	H-6	Q3	B-7	RV7	G-7		
D35	H-9	IC24	E-7	Q4	C-7	RV8	G-6		
D36	H-8	IC25	H-6	Q5	C-7	RV9	H-8		
D37	H-9	IC26	H-6	Q6	C-7	RV11	A-6		
D38	I-7	IC50	H-2	Q7	C-7	RV12	A-6		
D39	D-9	IC51	I-1	Q10	B-7	RV13	A-7		
D40	H-6	IC52	F-4	Q11	B-8	RV50	H-1		
D41	I-7	IC53	J-3	Q12	B-8				
D42	D-9	IC54	J-3	Q13	D-7	S1	F-9		
D43	D-9	IC55	J-4	Q15	F-7	S2	F-9		
D44	C-8	IC56	J-3	Q16	F-8	S3	H-5		
D45	H-6	IC57	I-3	Q20	A-9	S4	H-5		
D46	H-7	IC58	I-3	Q21	A-9	S5	H-6		
D47	G-7	IC59	I-4	Q22	A-9	S6	H-5		
D50	H-1	IC61	H-4	Q23	E-9	S7	I-6		

AT-55A/55B (1/3) BOARD

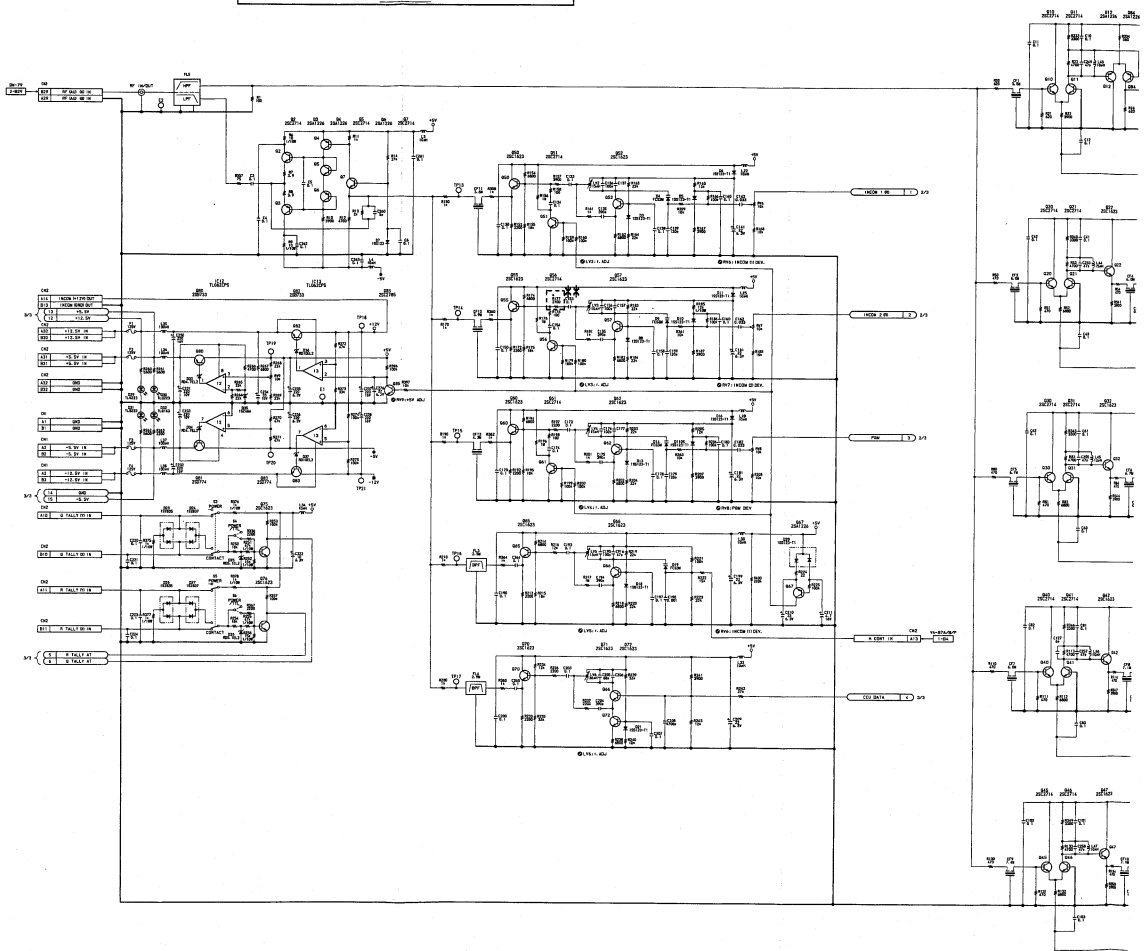


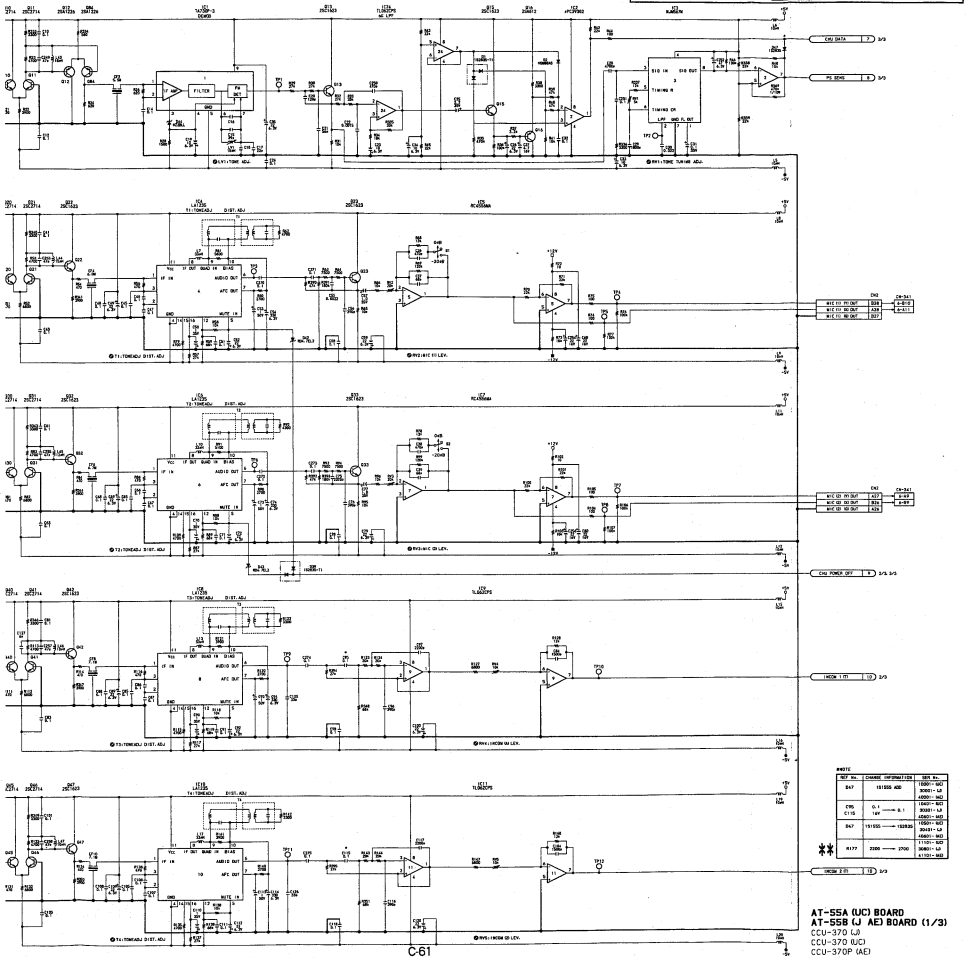


#NOTE			
REF No.	CHANGE INFORMATION	SEY No.	
D47	151DSC ASD	13001~ MD	
		30001~ LA	
		43001~ MD	
C115	0.1 ——— 0.1	13001~ MD	
	1MF	30001~ LA	
		43001~ MD	
D47	151DSS ——— 152KDS	13001~ MD	
		30401~ LA	
		43401~ MD	
R177	220Ω ——— 270Ω	11101~ MD	
		30001~ LA	
		41101~ MD	

AT-55A (UC) BOARD
AT-55B (J AE) BOARD (1/3)
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

AT-55A/55B (1/3) BOARD

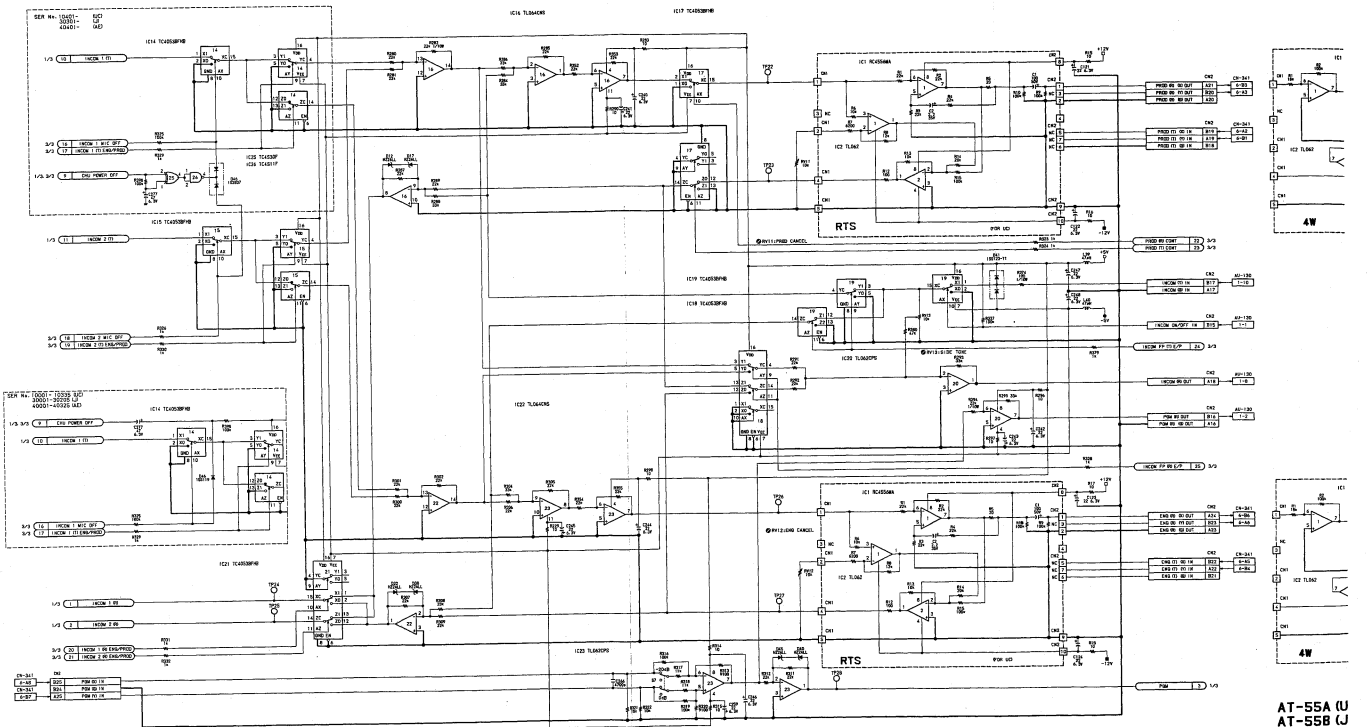




REF No.	CHANGE INFORMATION	SER No.
D47	151555 400	15001~ 647 30001~ 49
C95 C115	0.1 ⟶ 0.1 1nF	40001~ 643 15001~ 647 40001~ 643
D47	151555 ⟶ 152839	15001~ 647 30491~ 49 40001~ 643
R177	2200 ⟶ 2700	11101~ 647 30801~ 49 41101~ 643

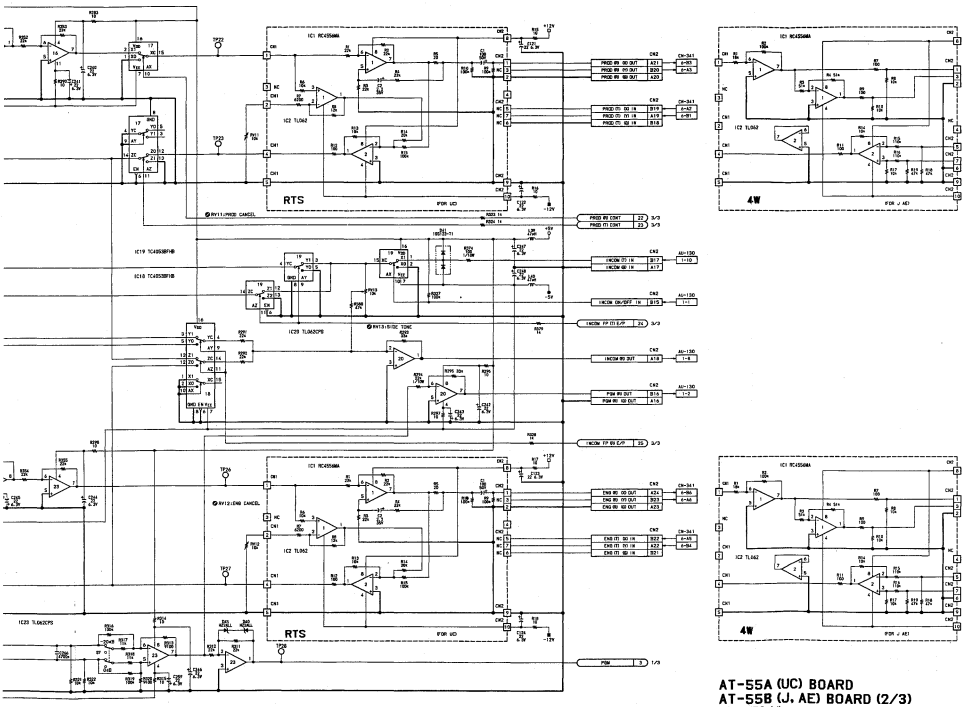
AT-55A (UC) BOARD
AT-55B (J AE) BOARD (1/3)
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

AT-55A/55B (2/3) BOARD



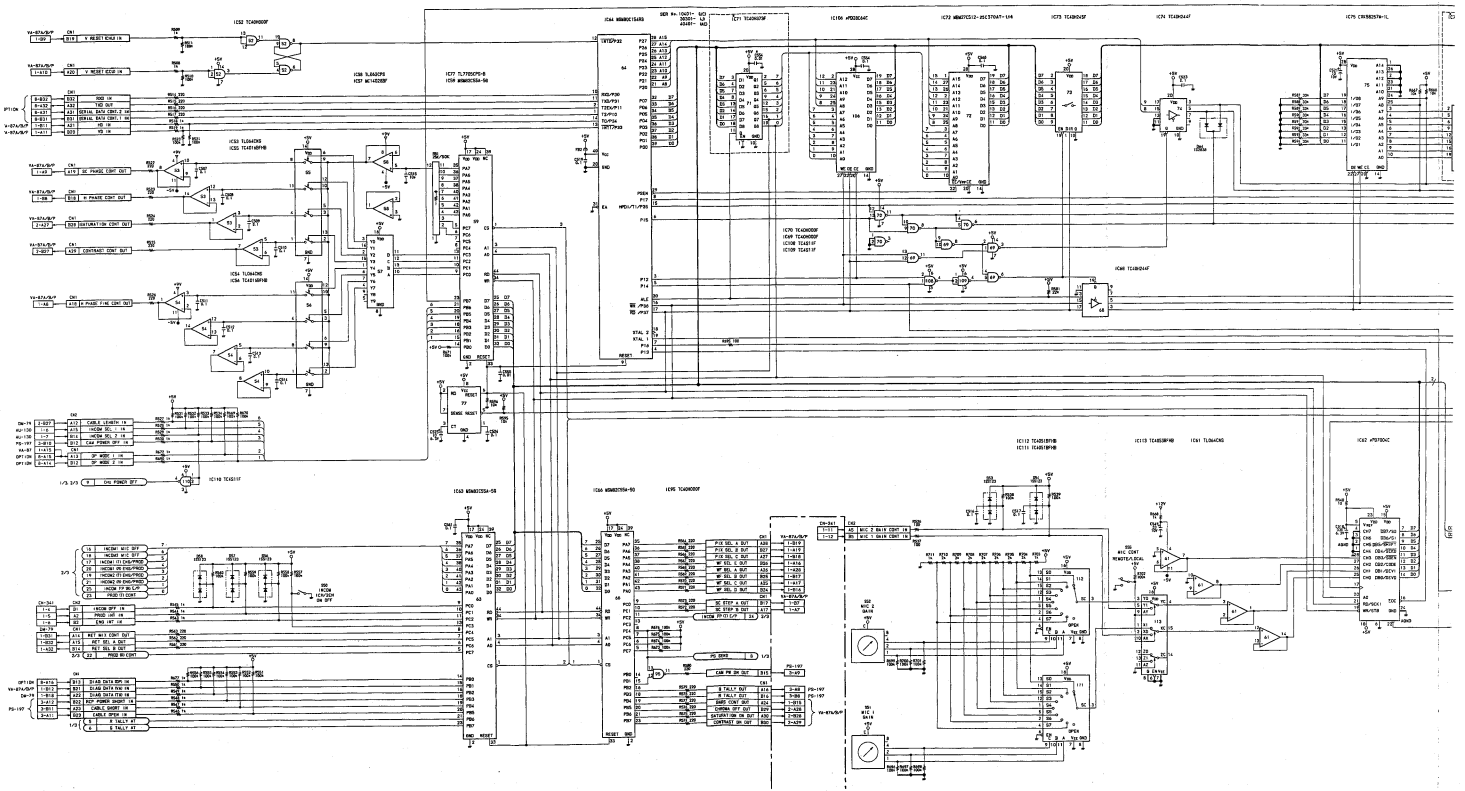
AT-55A (U
AT-55B (J
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE

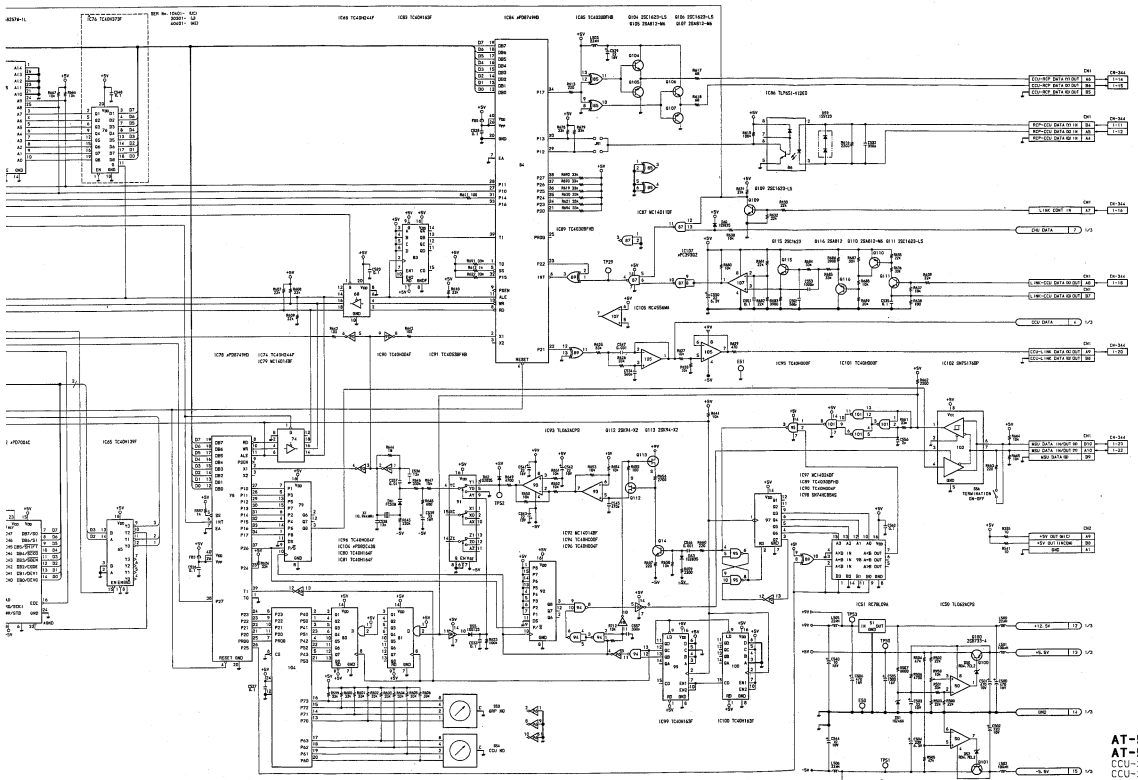
AT-55A/55B (2/3)

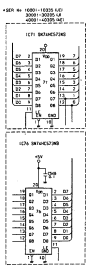


AT-55A (UC) BOARD
AT-55B (J, AE) BOARD (2/3)
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

AT-55A/55B (3/3) BOARD







AT-55A (UC) BOARD
AT-55B (J AE) BOARD (3/3)
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

C-75

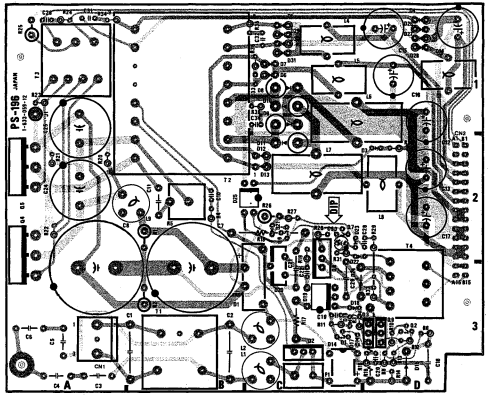
C-76

B-CCU370-AT55M#3

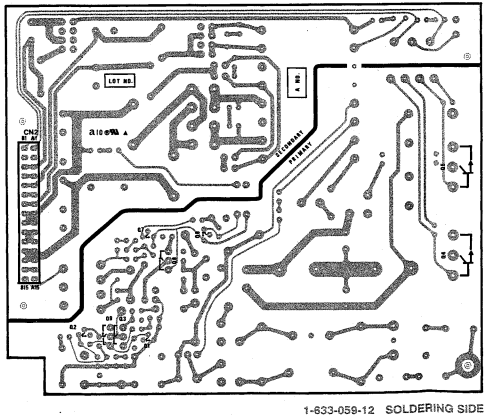
SP1161 / Druck 70

PS-196 BOARD

Serial No. 10101 –	(UC)
30101 –	(J)
40101 –	(AE)



1-633-059-12 COMPONENT SIDE



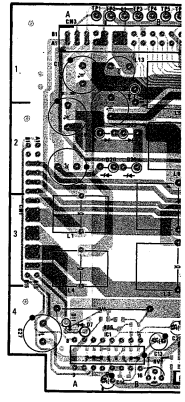
1-633-059-12 SOLDERING SIDE

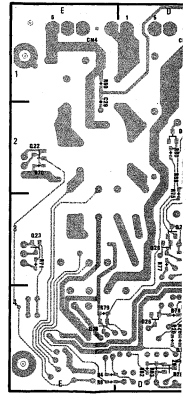
PS-196 1-633-059-12

CN1	A-3
CN2	D-1
D1	B-3
D2	C-3
D3	D-2
D4	D-1
D5	C-1
D6	C-1
D7	C-1
D8	C-1
D9	C-1
D10	C-1
D11	C-2
D12	C-2
D13	C-2
D14	C-3
D15	D-3
D16	C-3
D17	C-3
D18	C-3
D19	C-3
D20	C-3
D21	C-2
D22	C-2
D23	C-2
D24	C-3
D25	B-2
D26	D-1
D27	D-1
D28	D-1
D29	C-1
D30	C-1
D31	C-1
F1	C-3
Q1	C-3
Q2	D-3
Q3	D-3
Q4	A-2
Q5	A-2
Q6	C-2
Q7	C-2
Q8	C-3
Q9	D-3
T1	B-3
T2	B-2
T3	A-1
T4	D-2

PS-197 BOARD

Serial No. 10101 – 10500	(UC)
30101 – 30400	(J)
40101 – 40600	(AE)

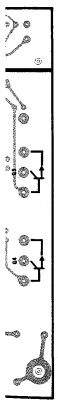




PS-197 BOARD

Serial No. 10101 – 10500 (UC)
30101 – 30400 (J)
40101 – 40600 (AE)

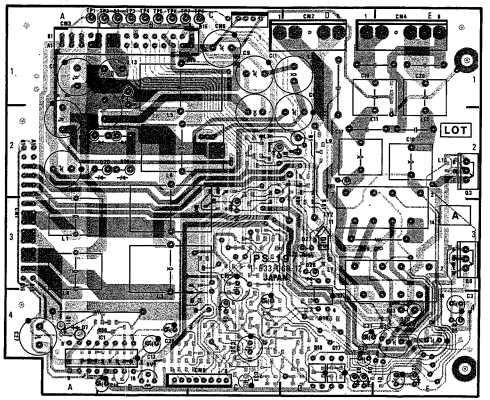
NT SIDE



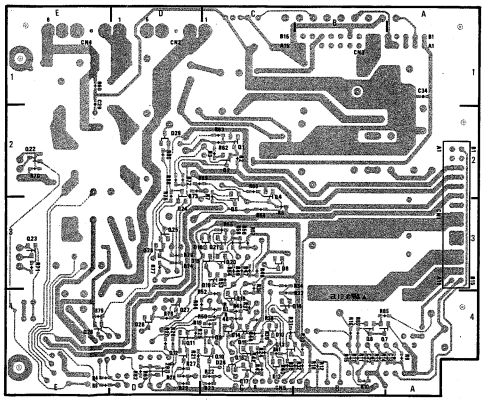
ING SIDE

PS-196 1-633-059-12

CN1	A-3
CN2	D-1
D1	B-3
D2	C-3
D3	D-2
D4	D-1
D5	C-1
D6	C-1
D7	C-1
D8	C-1
D9	C-1
D10	C-1
D11	C-2
D12	C-2
D13	C-2
D14	C-3
D15	D-3
D16	C-3
D17	C-3
D18	C-3
D19	C-3
D20	C-3
D21	C-2
D22	C-2
D23	C-2
D24	C-3
D25	B-2
D26	D-1
D27	D-1
D28	D-1
D29	C-1
D30	C-1
D31	C-1
F1	C-3
Q1	C-3
Q2	D-3
Q3	D-3
Q4	A-2
Q5	A-2
Q6	C-2
Q7	C-2
Q8	C-3
Q9	D-3
T1	B-3
T2	B-2
T3	A-1
T4	D-2



1-633-060-12 COMPONENT SIDE



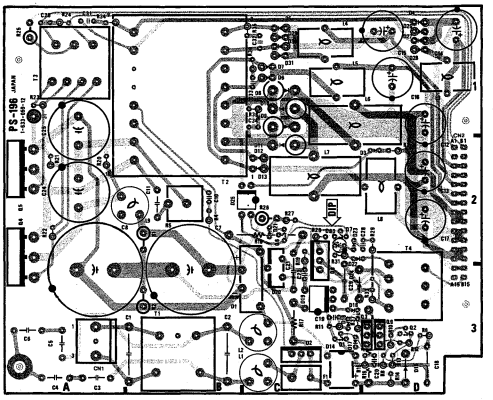
1-633-060-12 SOLDERING SIDE

PS-197 1-633-060-12

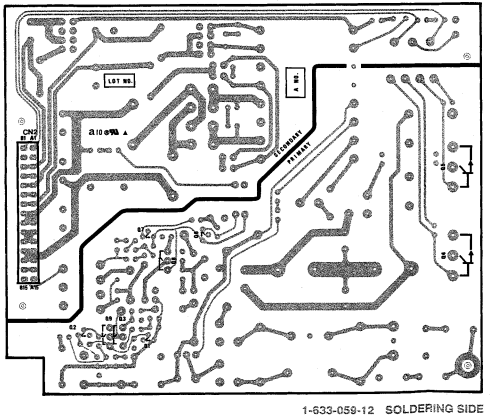
CN1	A-3	Q26	D-3
CN2	D-1	Q27	D-4
CN3	A-1	Q28	E-4
CN4	E-1	Q29	D-4
CN5	C-4		
CN6	C-1	RV1	B-4
D1	D-2	TP1	A-1
D2	E-4	TP2	B-1
D3	D-4	TP3	B-1
D4	C-3	TP4	B-1
D5	E-4	TP5	B-1
D6	D-4	TP6	B-1
D7	A-4	TP7	B-1
D8	C-3	TP8	C-1
D9	C-4		
D10	C-4		
D11	A-4		
D12	C-4		
D13	E-4		
D14	C-4		
D15	D-3		
D16	D-3		
D17	D-4		
D18	D-4		
D19	D-4		
D20	B-2		
D21	B-2		
D22	B-2		
D23	A-2		
D24	C-4		
D25	B-1		
D26	D-4		
D27	D-3		
D28	D-3		
D29	D-2		
D30	E-4		
E1	B-1		
IC1	B-4		
LY1	D-3		
LY2	D-3		
Q1	C-2		
Q2	C-2		
Q3	E-2		
Q4	C-2		
Q5	C-3		
Q6	E-3		
Q7	B-4		
Q8	B-4		
Q9	C-4		
Q10	C-4		
Q11	D-4		
Q12	D-4		
Q13	C-4		
Q14	B-4		
Q15	C-4		
Q16	C-4		
Q17	C-4		
Q18	C-4		
Q19	C-3		
Q20	C-3		
Q21	C-3		
Q22	E-2		
Q23	E-3		
Q24	D-3		
Q25	D-3		

PS-196 BOARD

Serial No.		
10101 –		(UC)
30101 –		(J)
40101 –		(AE)



1-633-059-12 COMPONENT SIDE



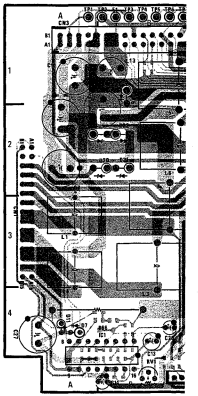
1-633-059-12 SOLDERING SIDE

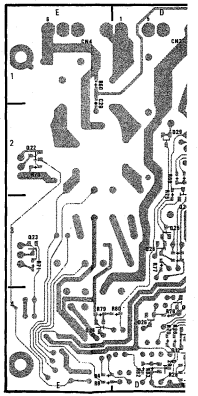
PS-196 1-633-059-12

CN1	A-3
CN2	D-1
D1	B-3
D2	C-3
D3	D-2
D4	D-1
D5	C-1
D6	C-1
D7	C-1
D8	C-1
D9	C-1
D10	C-1
D11	C-2
D12	C-2
D13	C-2
D14	C-3
D15	D-3
D16	C-3
D17	C-3
D18	C-3
D19	C-3
D20	C-3
D21	C-2
D22	C-2
D23	C-2
D24	C-3
D25	B-2
D26	D-1
D27	D-1
D28	D-1
D29	C-1
D30	C-1
D31	C-1
F1	C-3
Q1	C-3
Q2	D-3
Q3	D-3
Q4	A-2
Q5	A-2
Q6	C-2
Q7	C-2
Q8	C-3
Q9	D-3
T1	B-3
T2	B-2
T3	A-1
T4	D-2

PS-197 BOARD

Serial No.		
10501 –		(UC)
30401 –		(J)
40601 –		(AE)





PS-197 BOARD

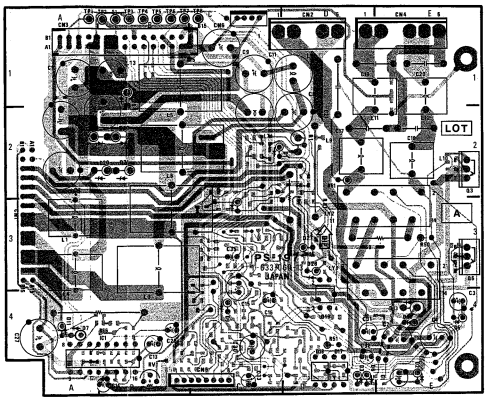
Serial No.		
10501 –		(UC)
30401 –		(J)
40601 –		(AE)

PS-196 1-633-059-12

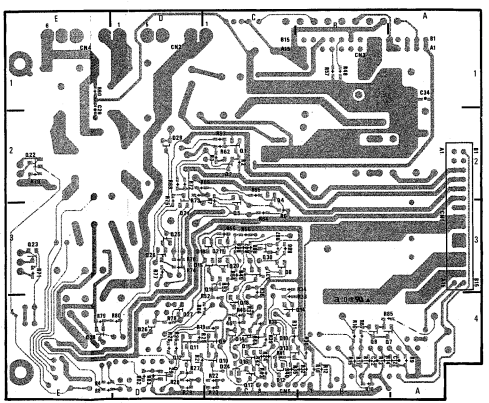
CN1	A-3
CN2	D-1
D1	B-3
D2	C-3
D3	D-2
D4	D-1
D5	C-1
D6	C-1
D7	C-1
D8	C-1
D9	C-1
D10	C-1
D11	C-2
D12	C-2
D13	C-2
D14	C-3
D15	D-3
D16	C-3
D17	C-3
D18	C-3
D19	C-3
D20	C-3
D21	C-2
D22	C-2
D23	C-2
D24	C-3
D25	B-2
D26	D-1
D27	D-1
D28	D-1
D29	C-1
D30	C-1
D31	C-1
F1	C-3
Q1	C-3
Q2	D-3
Q3	D-3
Q4	A-2
Q5	A-2
Q6	C-2
Q7	C-2
Q8	C-3
Q9	D-3
T1	B-3
T2	B-2
T3	A-1
T4	D-2

NT SIDE

ING SIDE



1-633-060-13 COMPONENT SIDE

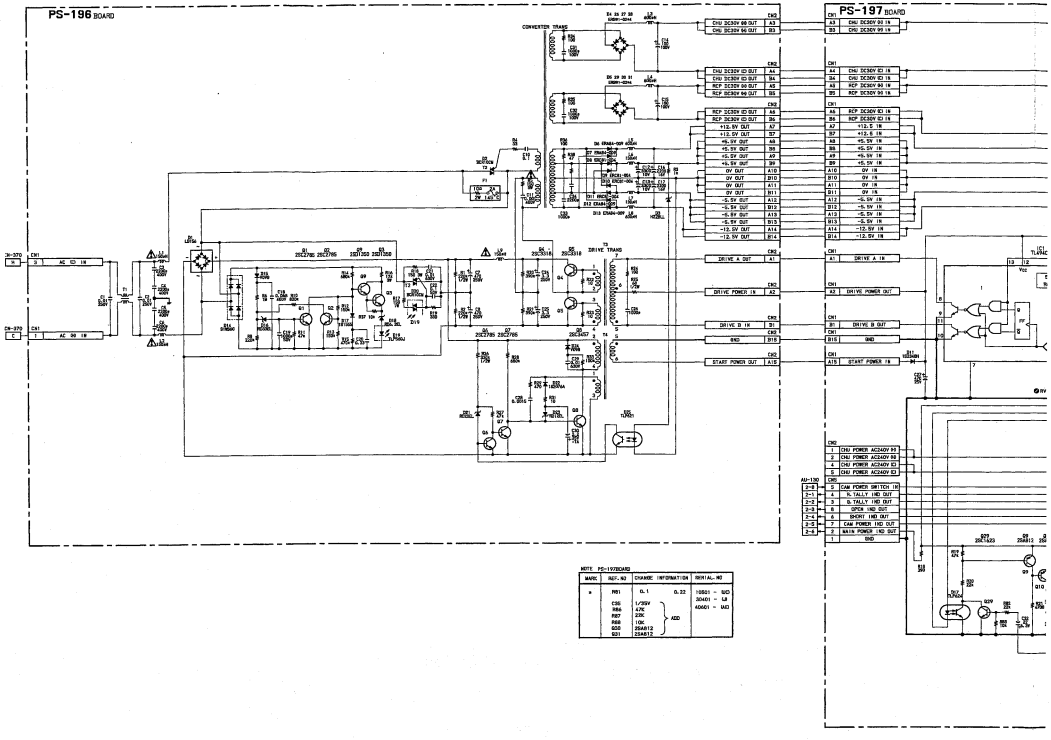


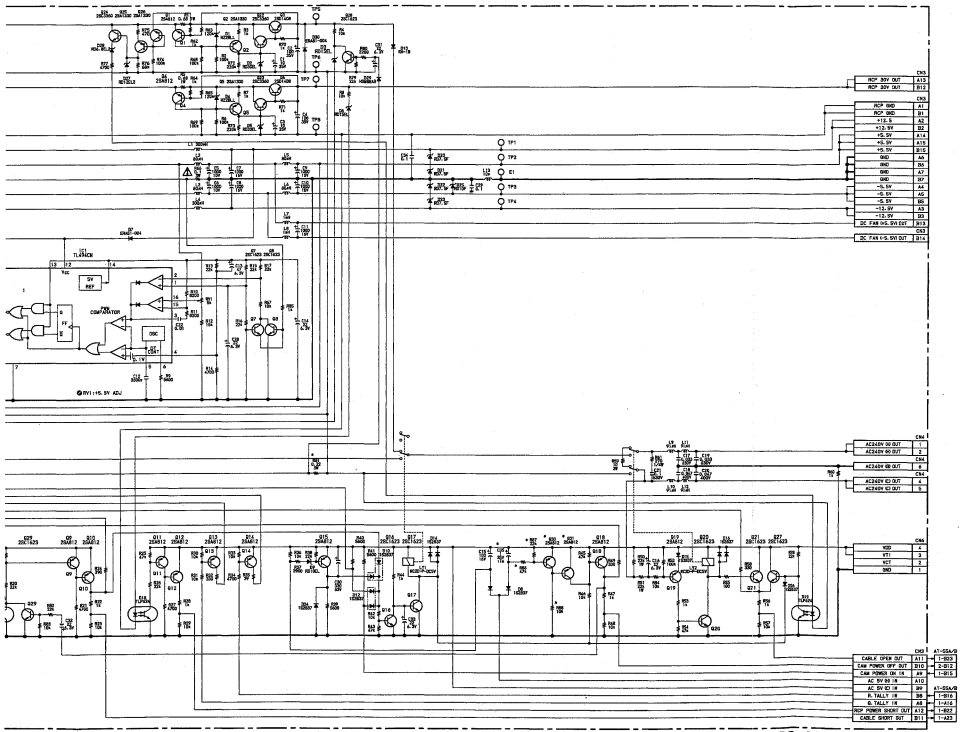
1-633-060-13 SOLDERING SIDE

PS-197 1-633-060-13

CN1	A-3	Q26	D-3
CN2	D-1	Q27	D-4
CN3	A-1	Q28	E-4
CN4	E-1	Q29	D-4
CN5	C-4	Q30	C-3
CN6	C-1	Q31	C-3
D1	D-2	RV1	B-4
D2	E-4		
D3	D-4	TP1	A-1
D4	C-3	TP2	B-1
D5	E-4	TP3	B-1
D6	D-4	TP4	B-1
D7	A-4	TP5	B-1
D8	C-3	TP6	B-1
D9	C-4	TP7	B-1
D10	C-4	TP8	C-1
D11	A-4		
D12	C-4		
D13	E-4		
D14	C-4		
D15	D-3		
D16	D-3		
D17	D-4		
D18	D-4		
D19	D-4		
D20	B-2		
D21	B-2		
D22	B-2		
D23	A-2		
D24	C-4		
D25	B-1		
D26	D-4		
D27	D-3		
D28	D-3		
D29	D-2		
D30	E-4		
E1	B-1		
IC1	B-4		
LY1	D-3		
LY2	D-3		
Q1	C-2		
Q2	C-2		
Q3	E-2		
Q4	C-2		
Q5	C-3		
Q6	E-3		
Q7	B-4		
Q8	B-4		
Q9	C-4		
Q10	C-4		
Q11	D-4		
Q12	C-4		
Q13	C-4		
Q14	B-4		
Q15	C-4		
Q16	C-4		
Q17	C-4		
Q18	C-4		
Q19	C-3		
Q20	C-3		
Q21	C-3		
Q22	E-2		
Q23	E-3		
Q24	D-3		
Q25	D-3		

PS-196 /197 BOARD

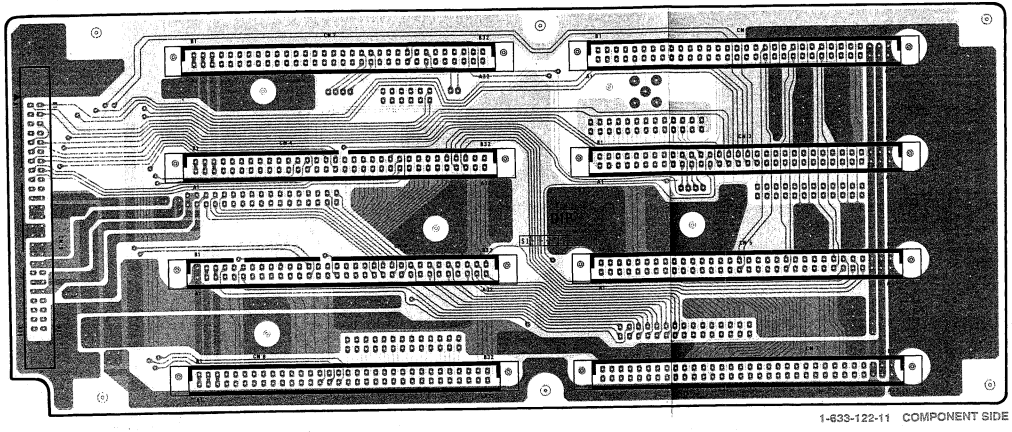




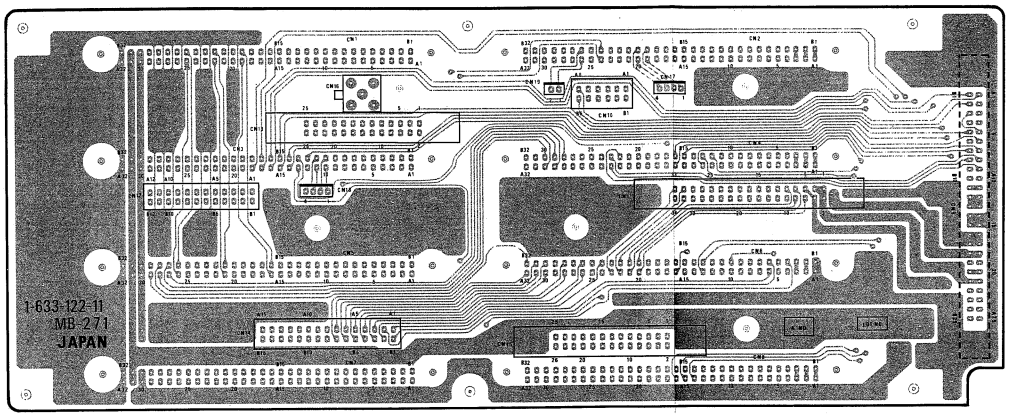
PS-196/197 BOARD
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

MB-271 BOARD

Serial No. 10001 – 10800 (UC)
30001 – 30600 (J)
40001 – 40800 (AE)



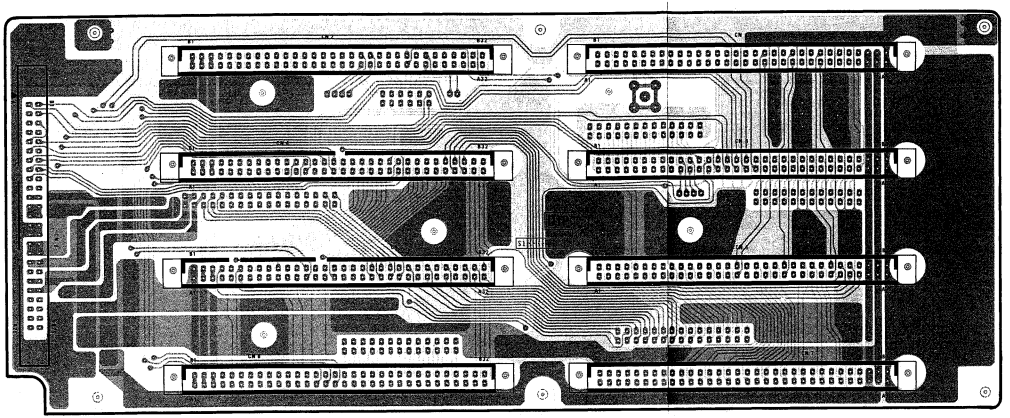
1-633-122-11 COMPONENT SIDE



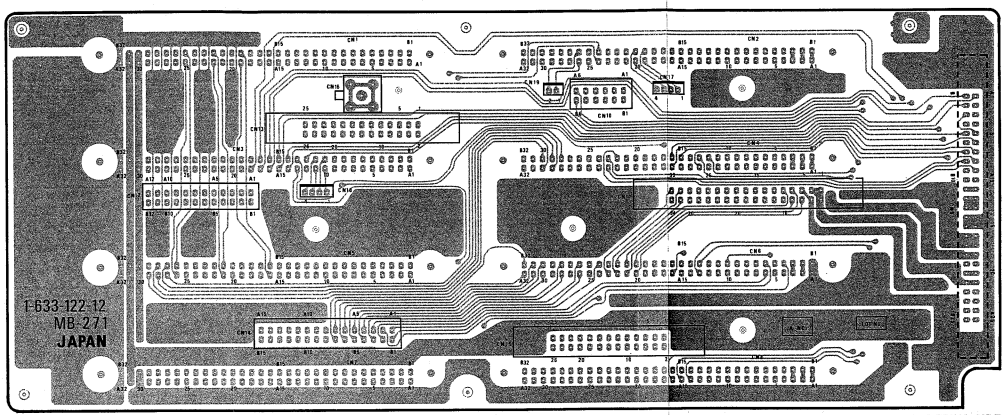
1-633-122-11 SOLDERING SIDE

MB-271 BOARD

Serial No. 10801 – 11100 (UC)
30601 – 30800 (J)
40801 – 41100 (AE)



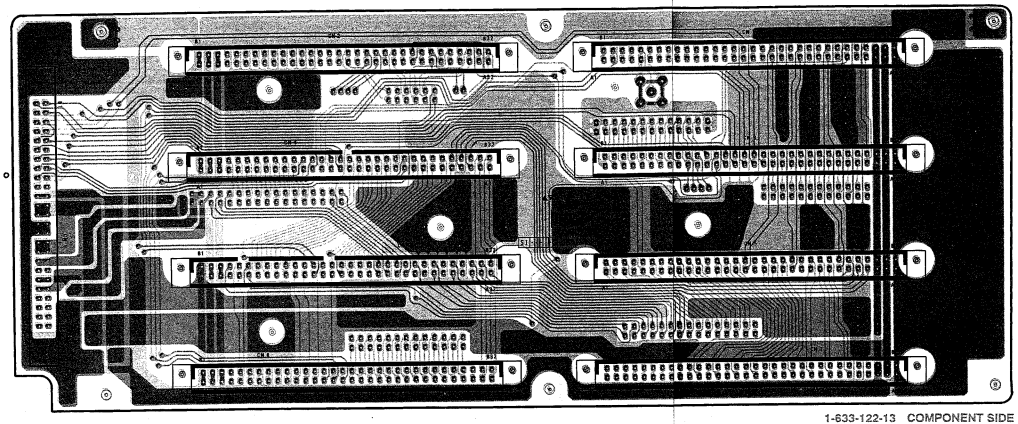
1-633-122-12 COMPONENT SIDE



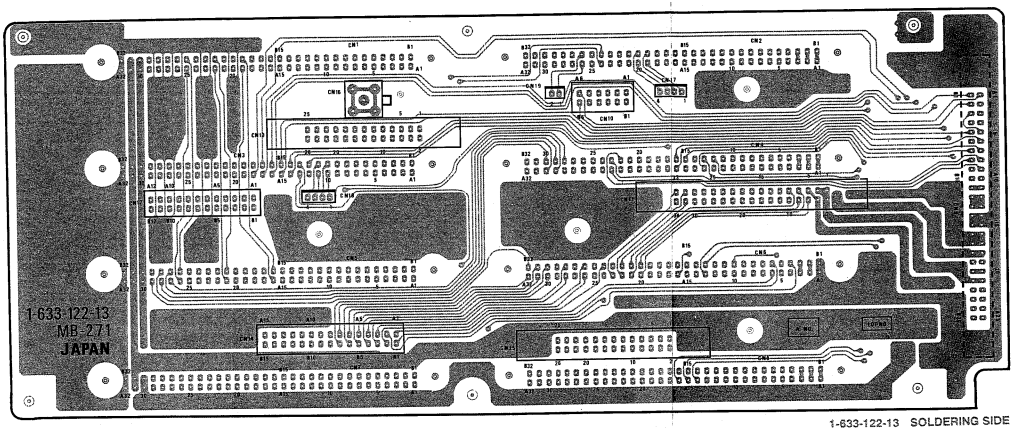
1-633-122-12 SOLDERING SIDE

MB-271 BOARD

Serial No.		
11101 –		(UC)
30801 –		(J)
41101 –		(AE)



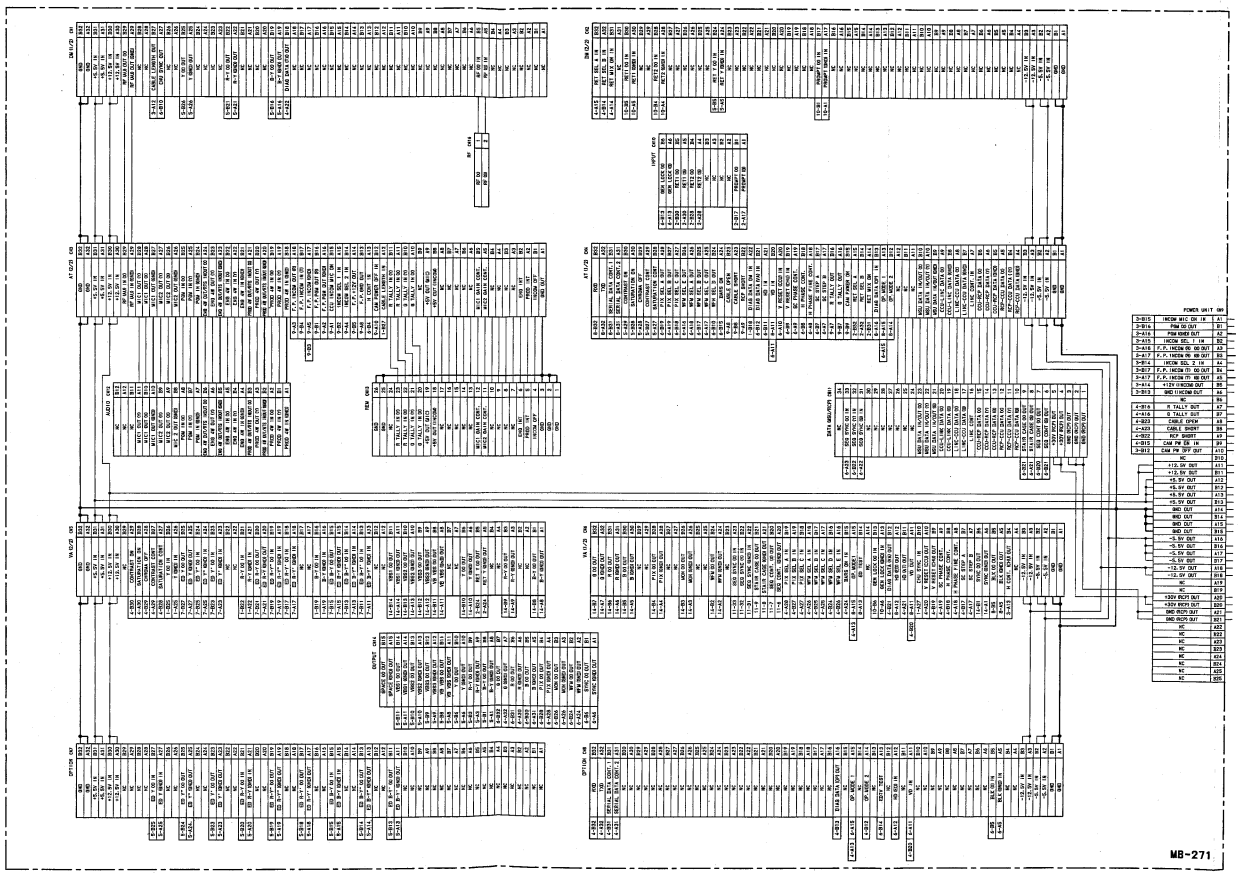
1-633-122-13 COMPONENT SIDE

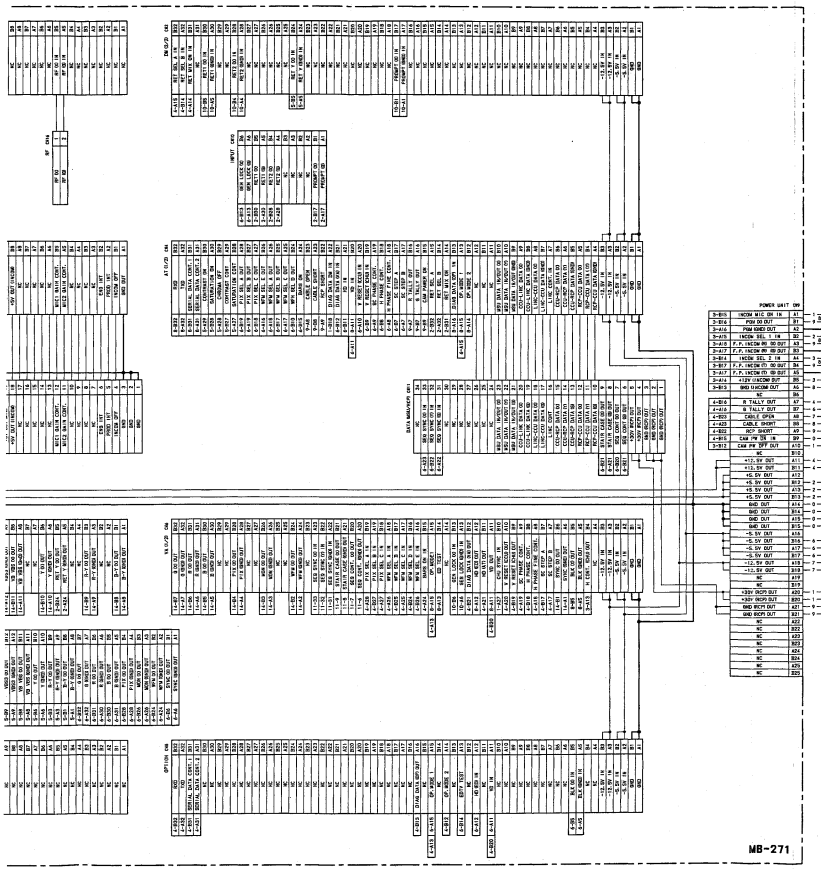


1-633-122-13 SOLDERING SIDE

FRAME WIRING (1/3)

MB-271 BOARD





FRAME WIRING (1/3)
MB-271 BOARD
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

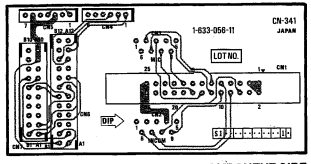
C-90

C-91

B-CCU370-FRAME/M#1

CN-341 BOARD

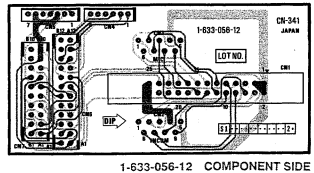
Serial No.		
10001 – 10015		(UC)
30001 – 30020		(J)
40001 – 40020		(AE)



1-633-056-11 COMPONENT SIDE

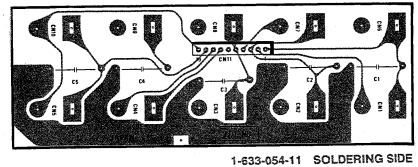
CN-341 BOARD

Serial No.		
10101 –		(UC)
30101 –		(J)
40101 –		(AE)



1-633-056-12 COMPONENT SIDE

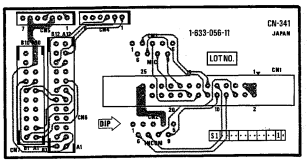
CN-342 BOARD



1-633-054-11 SOLDERING SIDE

CN-341 BOARD

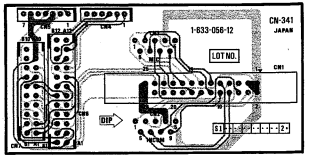
Serial No.		
10001 – 10015		(UC)
30001 – 30020		(J)
40001 – 40020		(AE)



1-633-056-11 COMPONENT SIDE

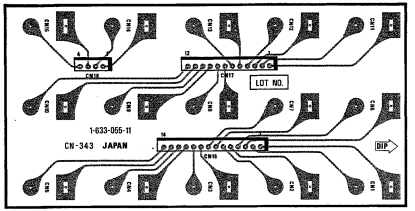
CN-341 BOARD

Serial No.		
10101 –		(UC)
30101 –		(J)
40101 –		(AE)



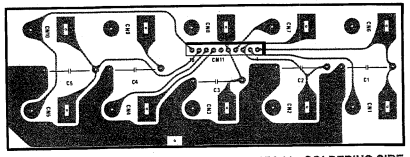
1-633-056-12 COMPONENT SIDE

CN-343 BOARD



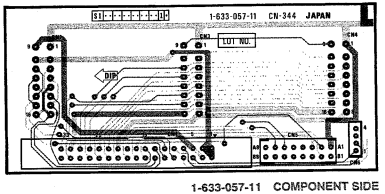
1-633-055-11 SOLDERING SIDE

CN-342 BOARD



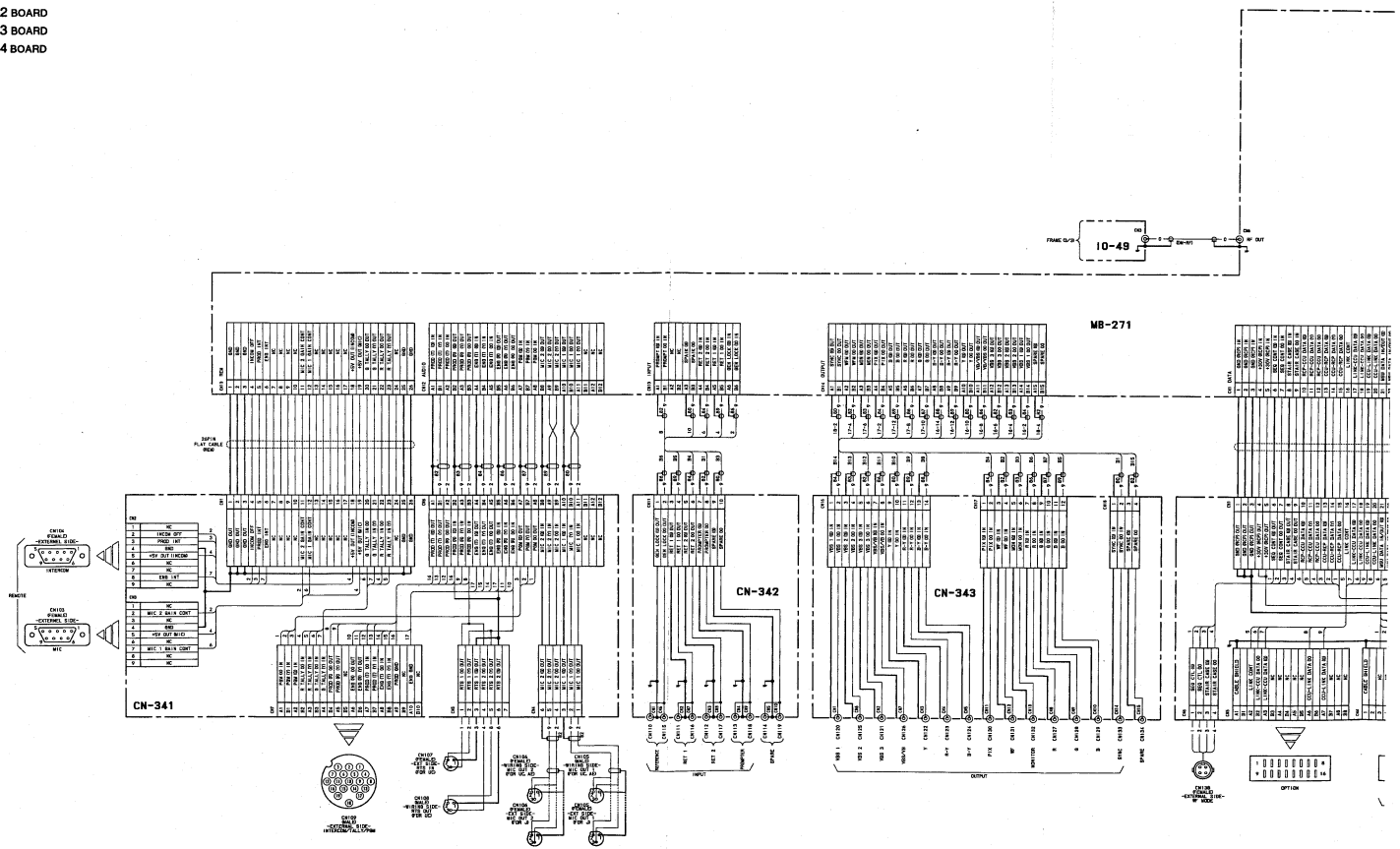
1-633-054-11 SOLDERING SIDE

CN-344 BOARD



1-633-057-11 COMPONENT SIDE

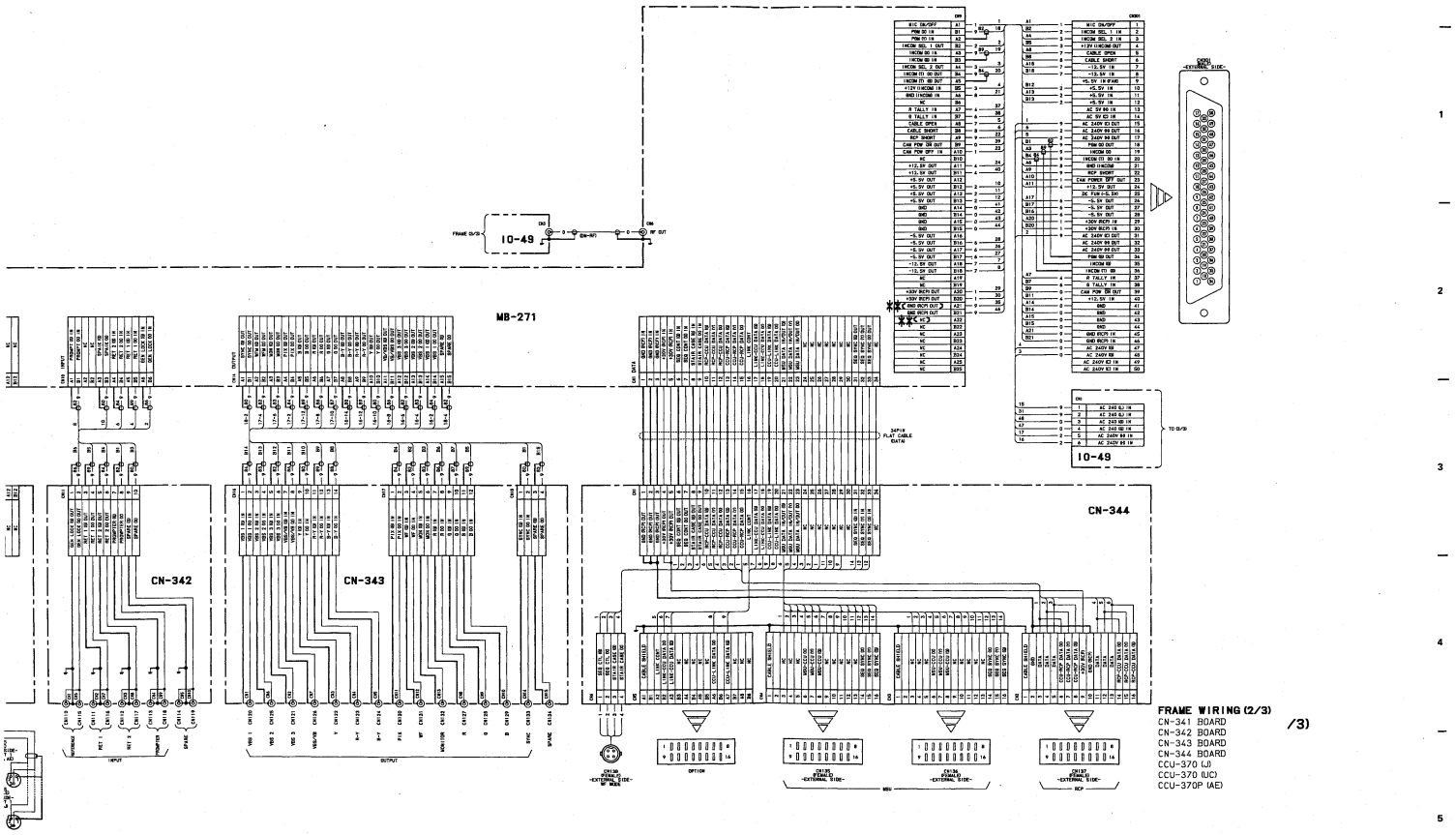
FRAME WIRING (2/3)
CN-341 BOARD
CN-342 BOARD
CN-343 BOARD
CN-344 BOARD



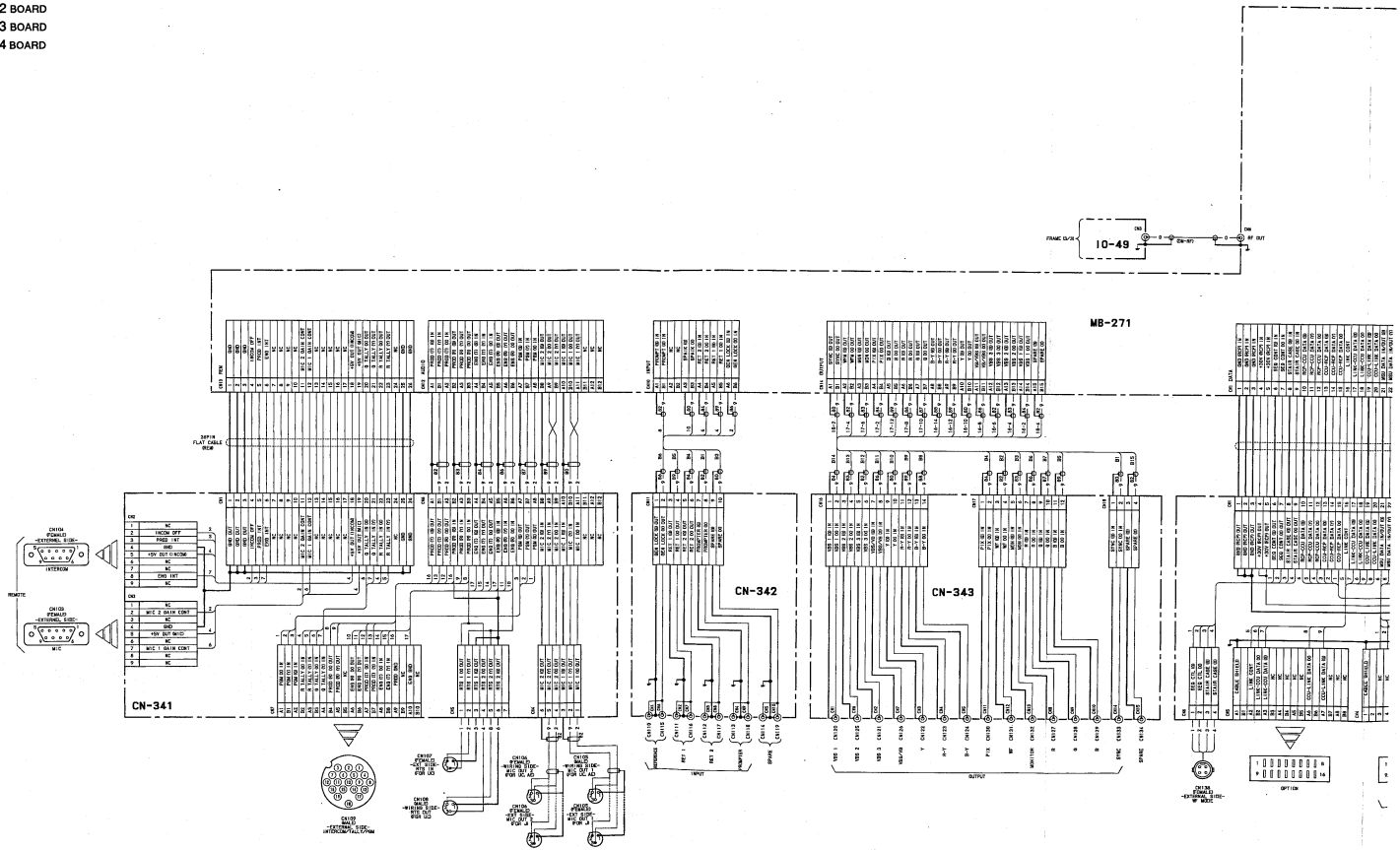
CCU-370P (AE) 1R6

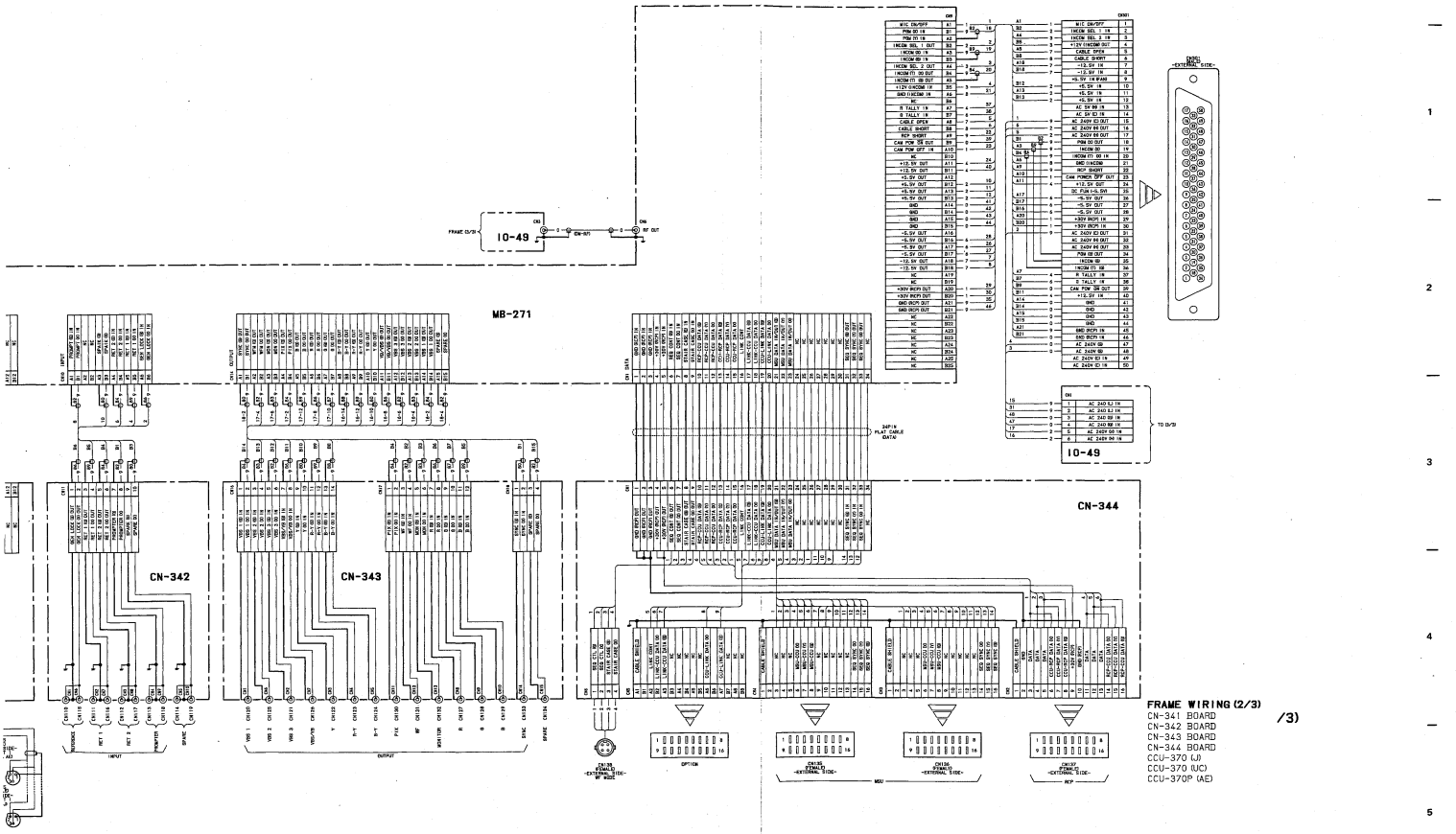
C-95 C-96

A B C D E F G H

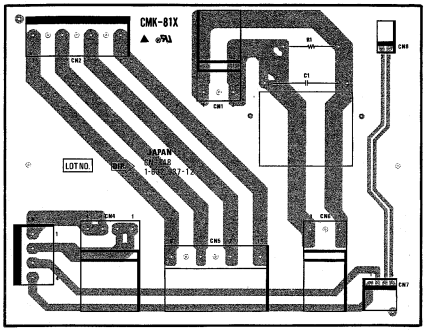

MB-271
CN-342
CN-343
CN-344
10-49
10-49
FRAME WIRING (2/3)
CN-341 BOARD
CN-342 BOARD
CN-343 BOARD
CN-344 BOARD
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)
/3)

FRAME WIRING (2/3)
CN-341 BOARD
CN-342 BOARD
CN-343 BOARD
CN-344 BOARD




MB-271
CN-342
CN-343
CN-344
10-49
FRAME WIRING (2/3)
CN-341 BOARD /3)
CN-342 BOARD
CN-343 BOARD
CN-344 BOARD
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

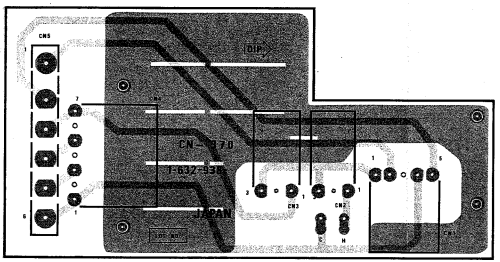
CN-348 BOARD



1-632-937-12 COMPONENT SIDE

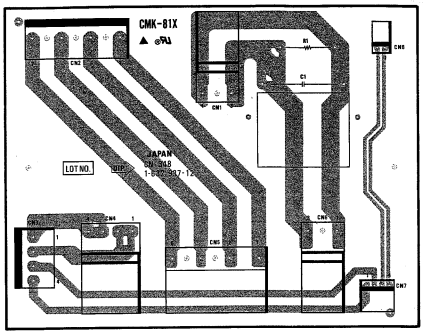
CN-370 BOARD

Serial No.			
10001	–	10420, 10501 –	(UC)
30001	–	30305, 30401 –	(J)
40001	–	40425, 40501 –	(AE)



1-632-938-12 , 13 COMPONENT SIDE

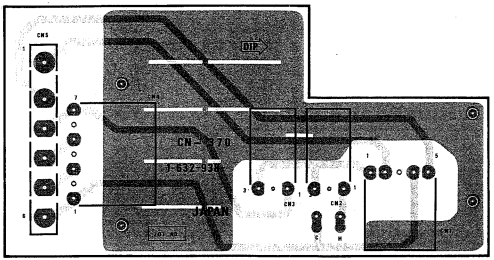
CN-348 BOARD



1-632-937-12 COMPONENT SIDE

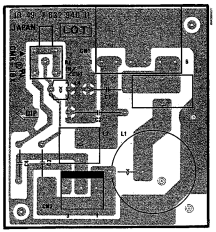
CN-370 BOARD

Serial No. 10001	– 10420, 10501	– (UC)
30001	– 30305, 30401	– (J)
40001	– 40425, 40501	– (AE)



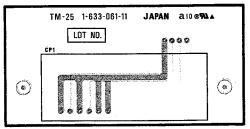
1-632-938-12 , 13 COMPONENT SIDE

IO-49 BOARD

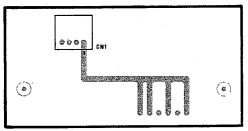


1-632-940-11 COMPONENT SIDE

TM-25 BOARD

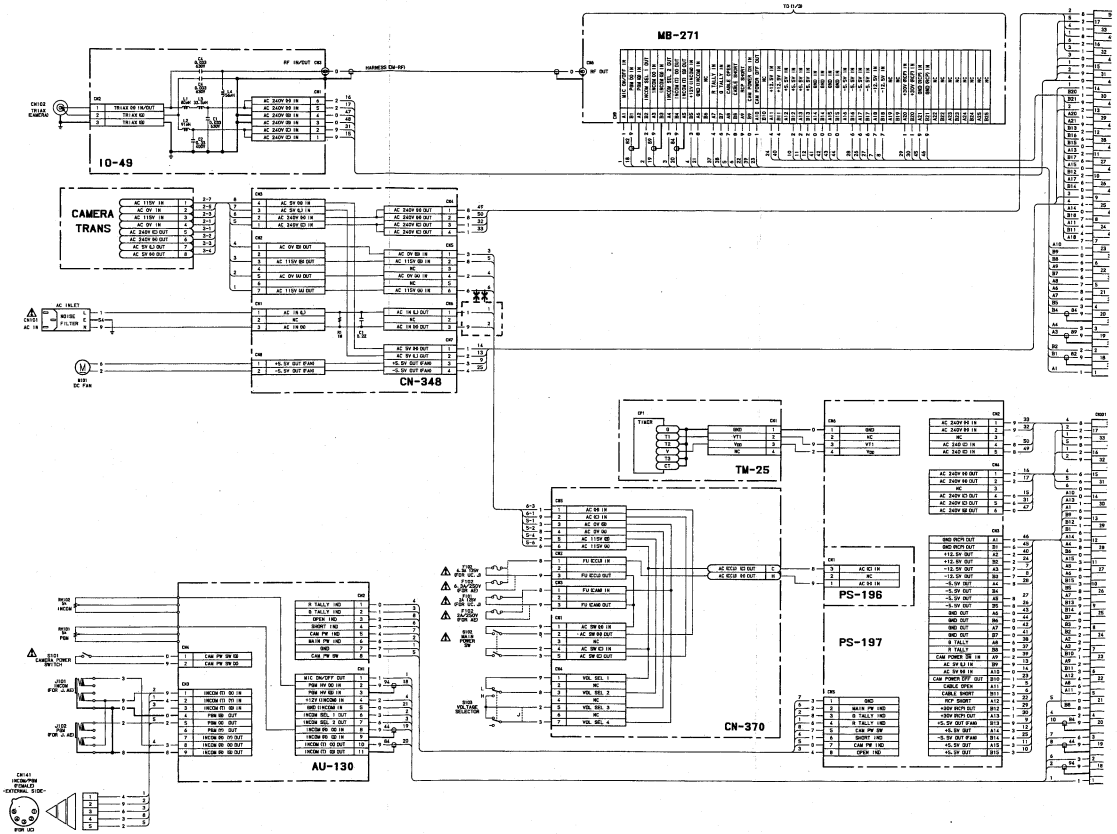


1-633-061-11 COMPONENT SIDE

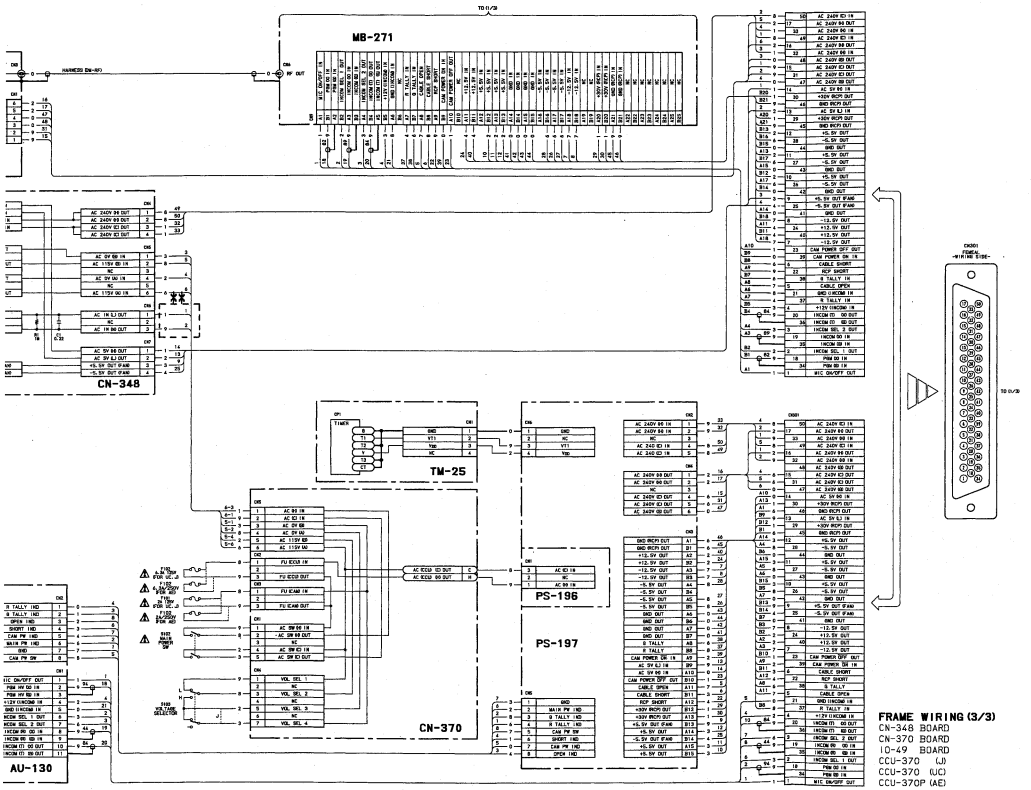


1-633-061-11 SOLDERING SIDE

FRAME WIRING (3/3)
CN-348 BOARD
CN-370 BOARD
IO-49 BOARD
TM-25 BOARD

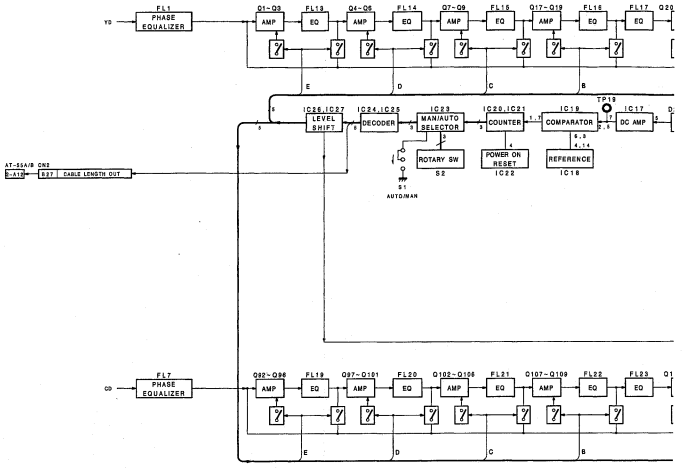


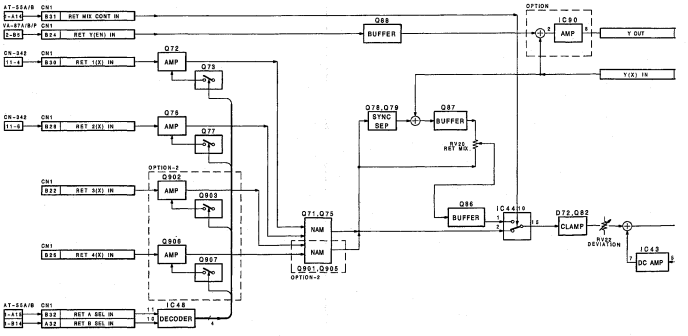
CN-348, CN-370 IO-49, TM-25 FRAME WIRING (3/3)



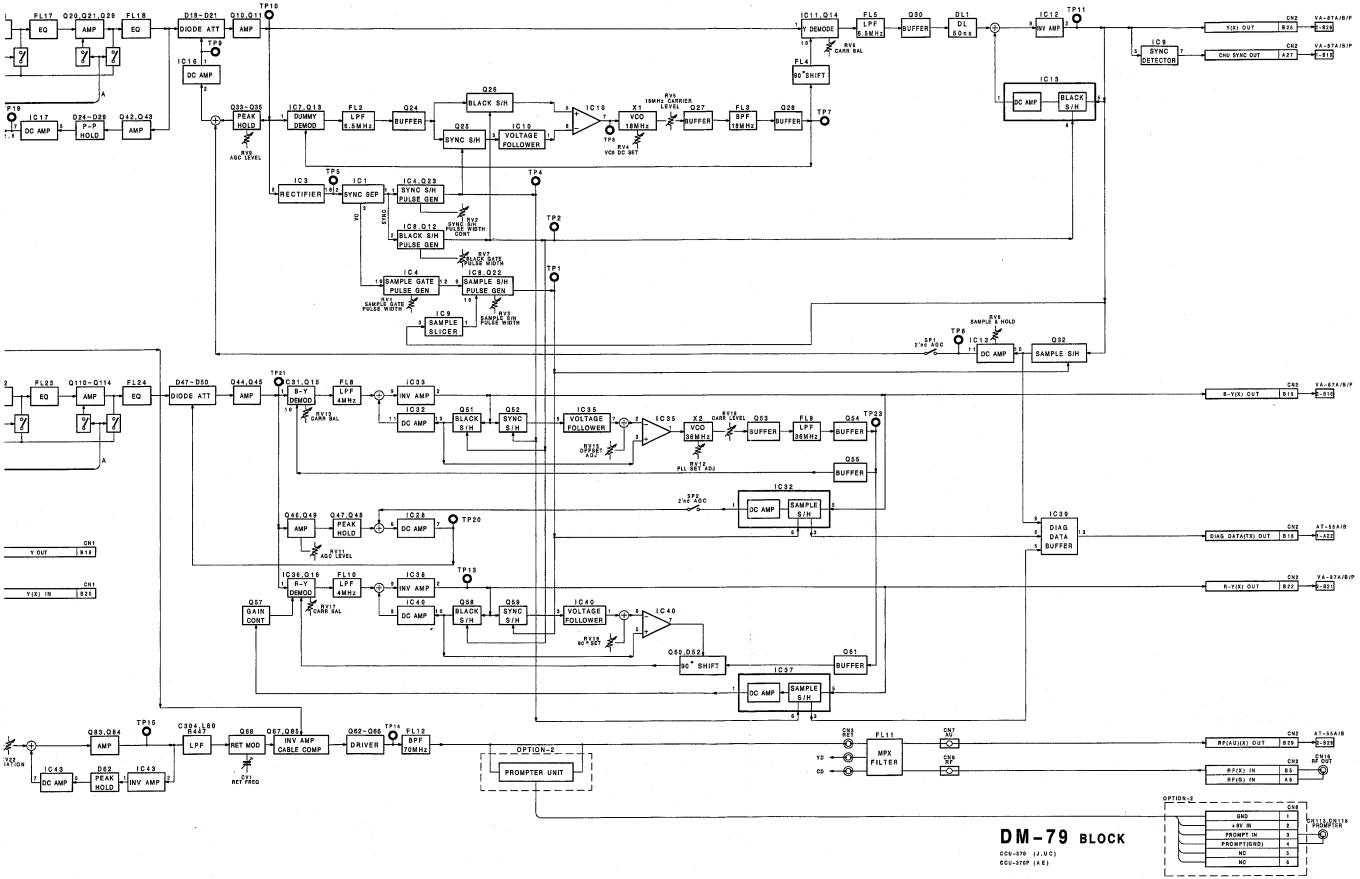
FRAME WIRING (3/3)
CN-348 BOARD
CN-370 BOARD
IO-49 BOARD
CCU-370 (J)
CCU-370 (JC)
CCU-370P (AE)

DM-79 BLOCK

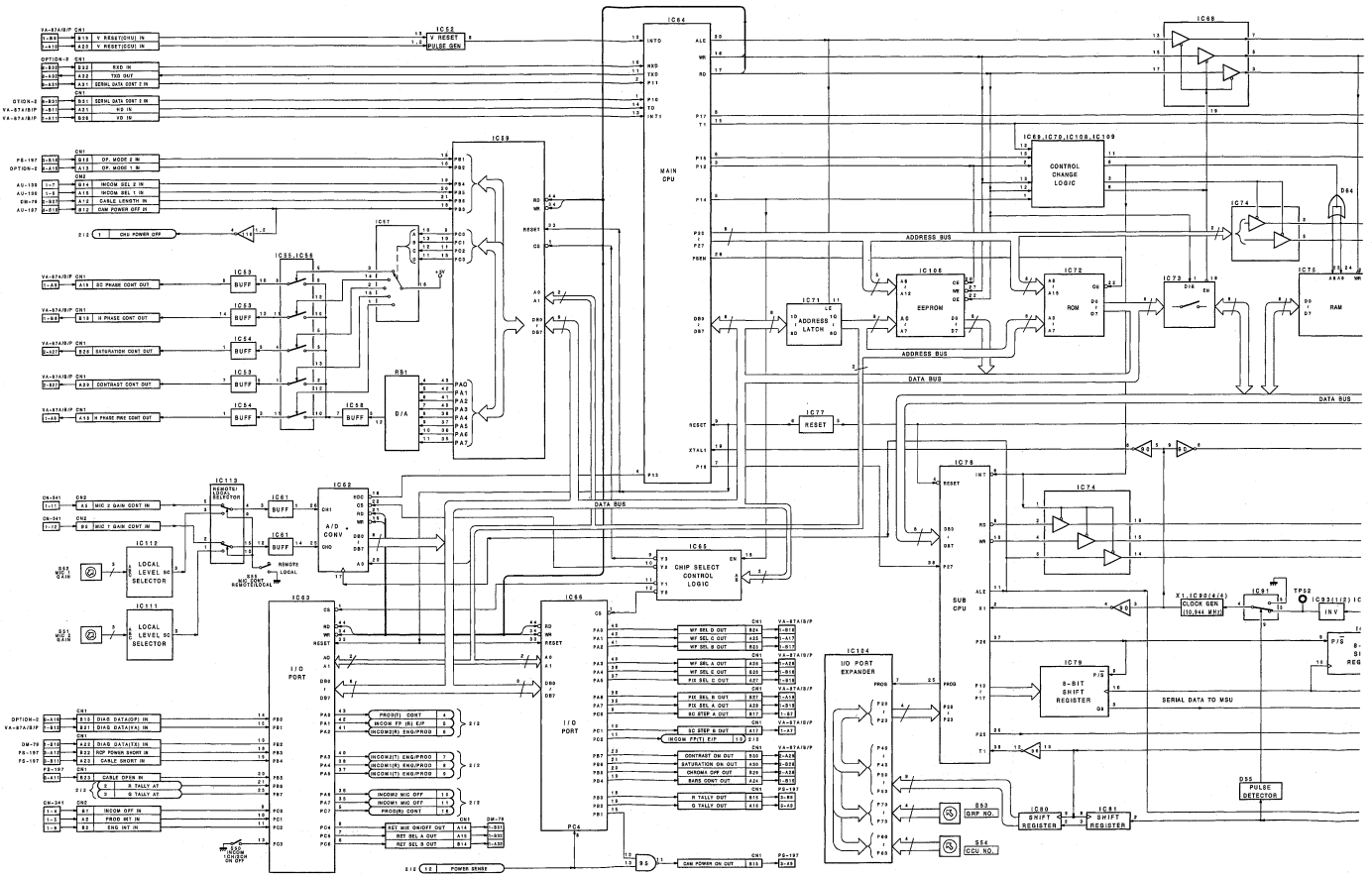


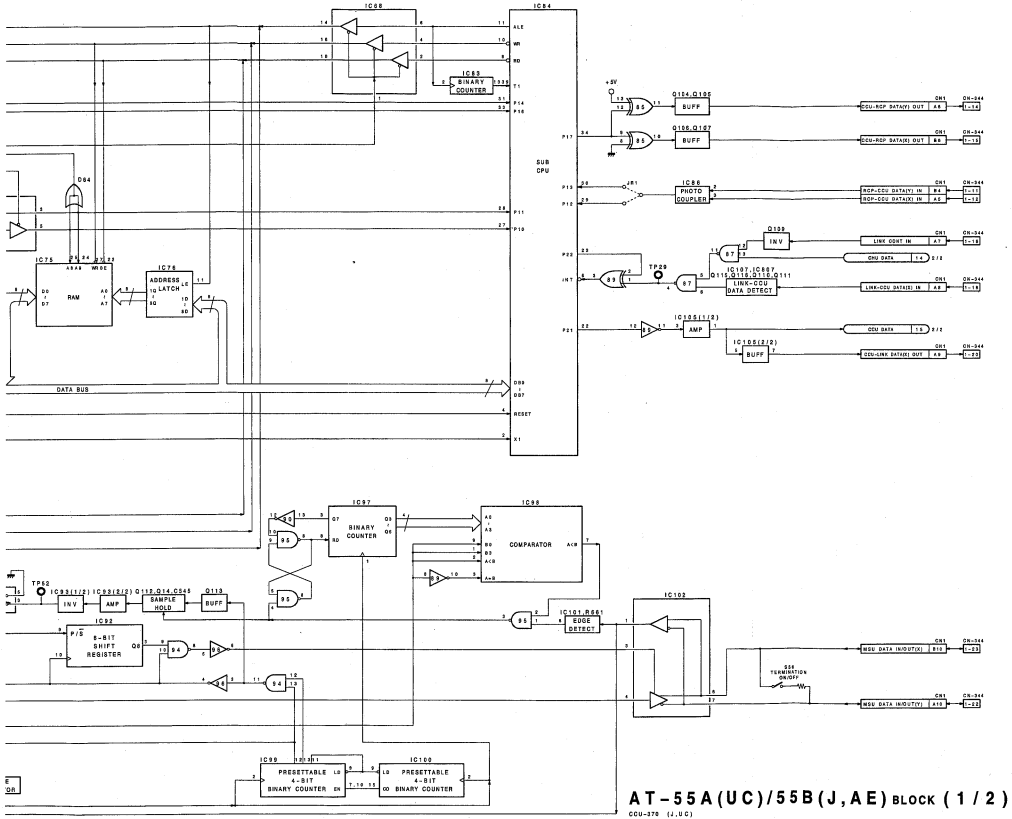


A-13 A-14


DM-79 BLOCK
CCU-370 (J,UC)
CCU-370P (AE)
OPTION-2
PROMPTER UNIT
MPX FILTER
DC AMP
SAMPLE S/H
VOLTAGE FOLLOWER
VCO 18MHz
VCO 28MHz
SYNC SEP
SYNC DETECTOR
DIAG DATA BUFFER
GND
+8V IN
PROMPT IN
PROMPT(GND)
NC
NC

AT-55A/55B BLOCK (1/2)

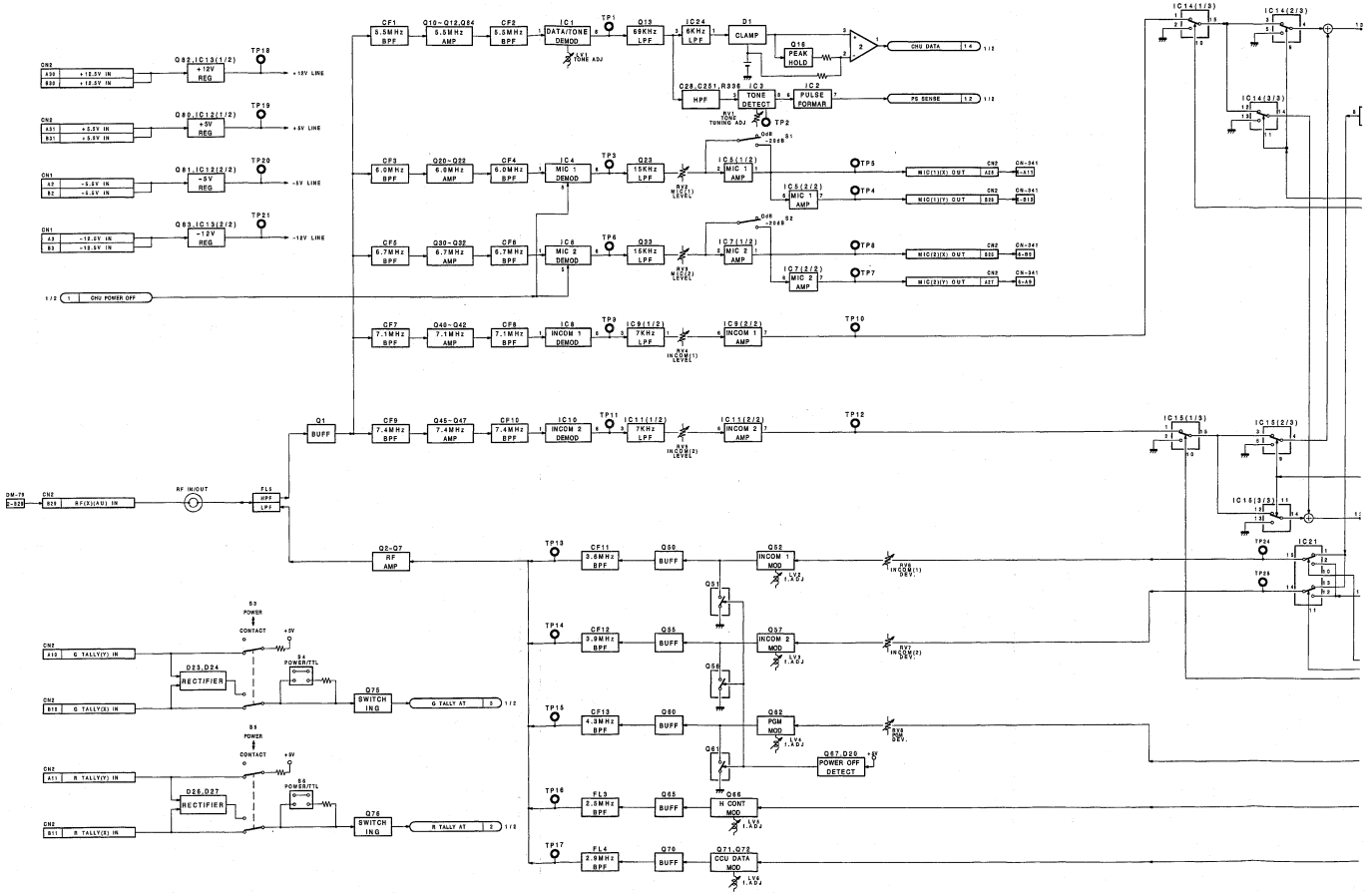


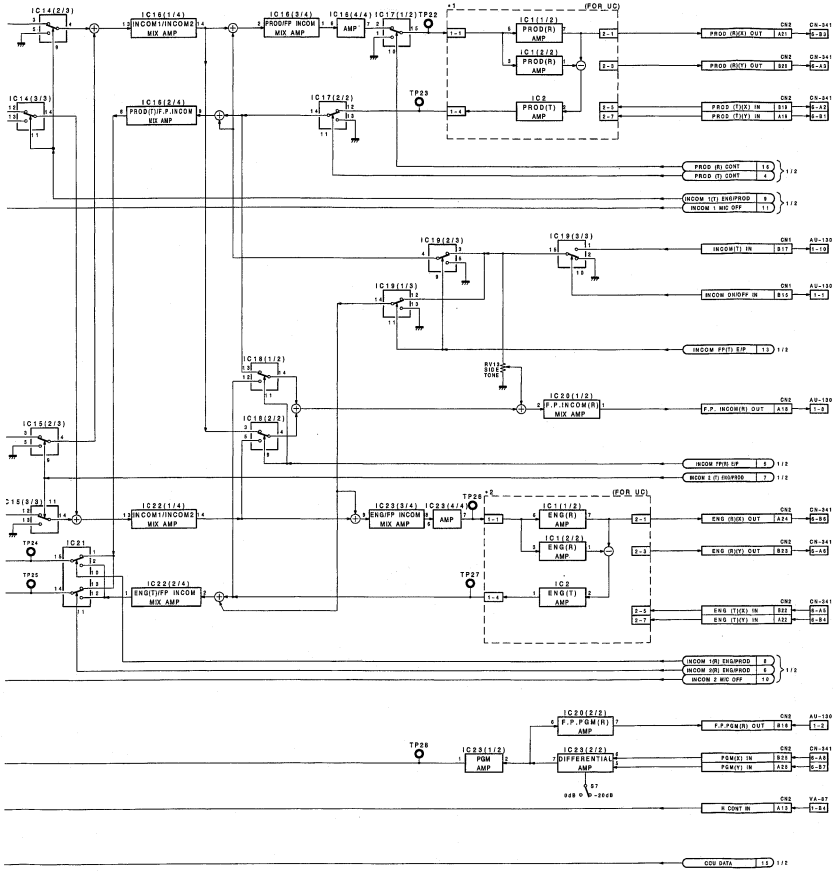


AT-55A(UC)/55B(J,AE) BLOCK (1/2)

CCU-370 (J,UC)
CCU-370P (AE)

AT-55A/55B BLOCK (2/2)

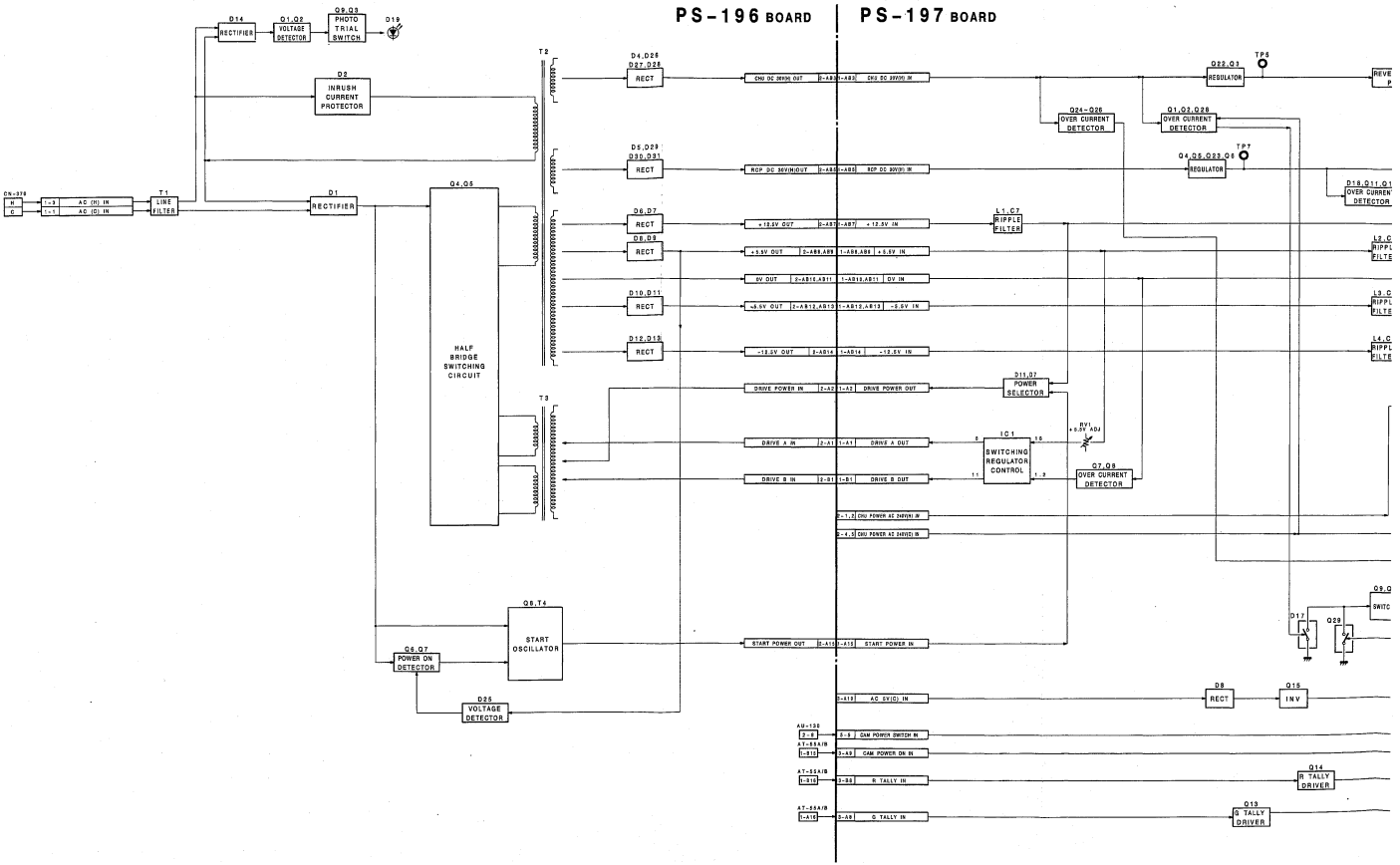


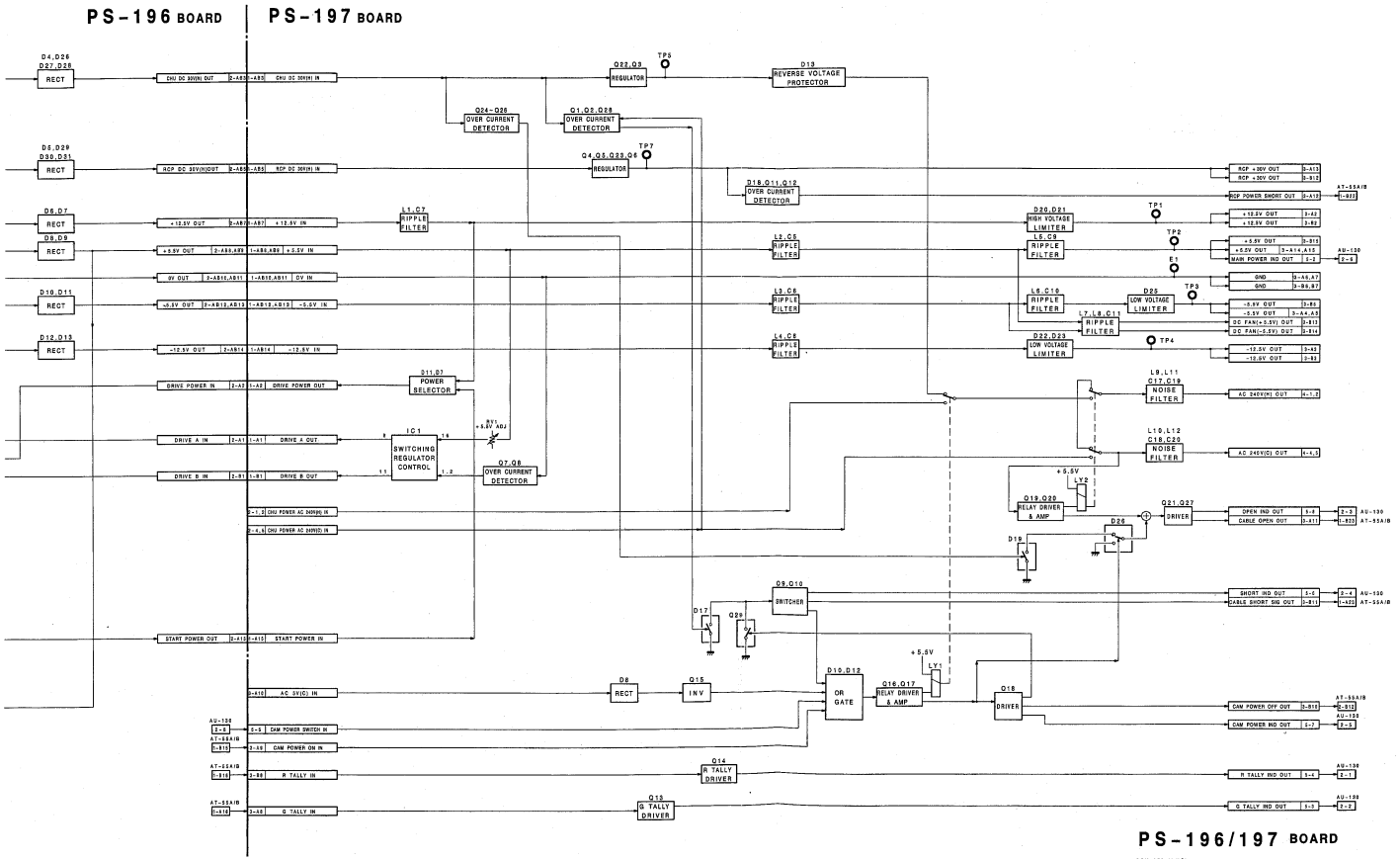


AT-55A(UC)/55B(J,AE) BLOCK (2/2)

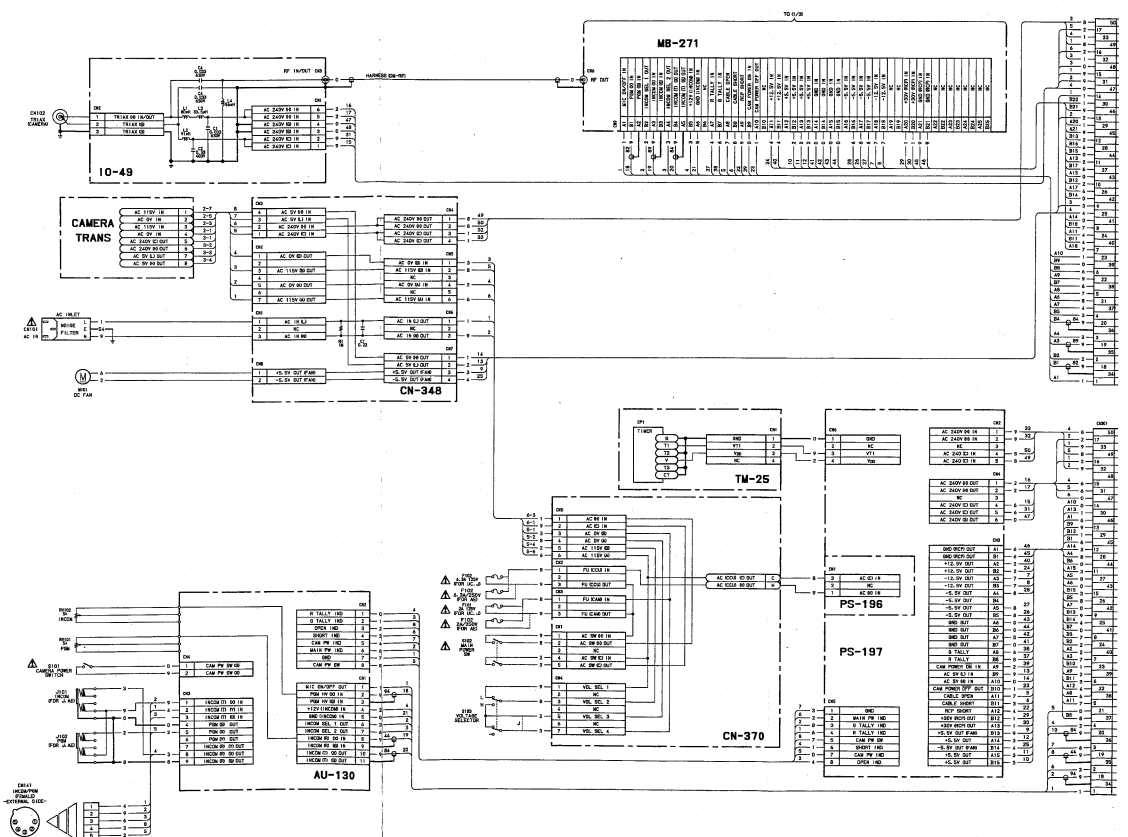
CCU-370 (J,UC)
CCU-370P (AE)

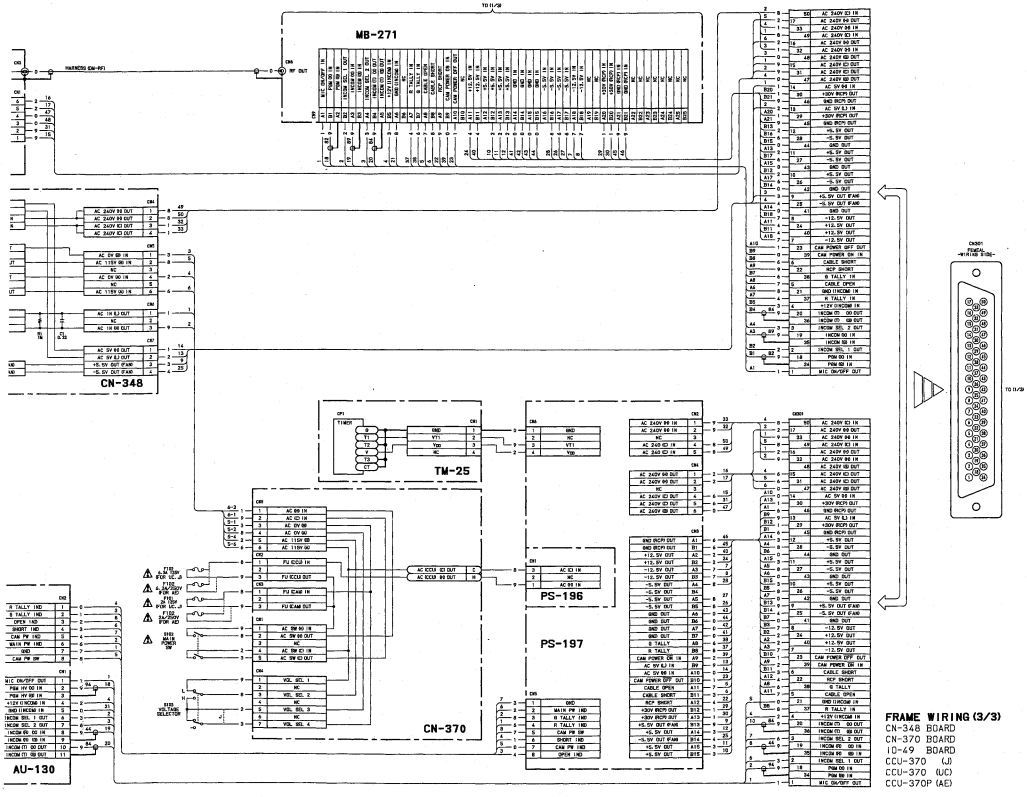
PS-196/197 BLOCK




PS-196 BOARD
PS-197 BOARD
D4,D26
D27,D28
RECT
CHU DC 35V(N) OUT
A-A830~A85
CHU DC 35V(N) IN
Q22,Q3
REGULATOR
TP5
D13
REVERSE VOLTAGE PROTECTOR
Q24~Q29
OVER CURRENT DETECTOR
Q1,Q2,Q28
OVER CURRENT DETECTOR
D5,D29
D30,D31
RECT
RCP DC 35V(N)OUT
A-A830~A85
RCP DC 35V(N) IN
Q4,Q5,Q23,Q6
REGULATOR
TP7
D18,Q11,Q12
OVER CURRENT DETECTOR
RCP +30V OUT
RCP +30V OUT
RCP POWER SHORT OUT
AT-55A/B
D6,D7
RECT
+12.5V OUT
A-A870~A87
+12.5V IN
L1,C7
RIPPLE FILTER
D20,D21
HIGH VOLTAGE LIMITER
TP1
+12.5V OUT
+12.5V OUT
D8,D9
RECT
+5.5V OUT
2-A89,A89
1-A89,A89
+5.5V IN
L3,C5
RIPPLE FILTER
L5,C9
RIPPLE FILTER
TP2
+5.5V OUT
+5.5V OUT
MAIN POWER IND OUT
AU-130
0V OUT
3-A810,A811
1-A810,A811
0V IN
E1
GND
GND
D10,D11
RECT
-5.5V OUT
2-A813,A813
1-A813,A813
-5.5V IN
L3,C6
RIPPLE FILTER
L6,C10
RIPPLE FILTER
D25
LOW VOLTAGE LIMITER
TP3
-5.5V OUT
-5.5V OUT
L7,L8,C11
RIPPLE FILTER
DC FAN(+5.5V) OUT
DC FAN(-5.5V) OUT
D12,D13
RECT
-12.5V OUT
2-A814
1-A814
-12.5V IN
L4,C8
RIPPLE FILTER
D22,D23
LOW VOLTAGE LIMITER
TP4
-12.5V OUT
-12.5V OUT
DRIVE POWER IN
2-A2
1-A2
DRIVE POWER OUT
D11,D7
POWER SELECTOR
L9,L11
C17,C19
NOISE FILTER
AC 240V(H) OUT
DRIVE A IN
2-A11
1-A11
DRIVE A OUT
IC1
SWITCHING REGULATOR CONTROL
8V1
+8.5V ADJ
L10,L12
C18,C20
NOISE FILTER
AC 240V(C) OUT
DRIVE B IN
2-B11
1-B11
DRIVE B OUT
Q7,Q8
OVER CURRENT DETECTOR
+5.5V
LY2
Q19,Q20
RELAY DRIVER & AMP
Q21,Q27
DRIVER
D26
OPEN IND OUT
CABLE OPEN OUT
AU-130
AT-55A/B
CHU POWER AC 240V(H) IN
CHU POWER AC 240V(C) IN
D19
Q9,Q10
SWITCHER
SHORT IND OUT
CABLE SHORT SIG OUT
AU-130
AT-55A/B
D17
Q89
START POWER OUT
A-A410
~A15
START POWER IN
+5.5V
LY1
D8
RECT
Q15
INV
D10,D12
OR GATE
Q16,Q17
RELAY DRIVER & AMP
Q18
DRIVER
AC 5V(C) IN
CAM POWER OFF OUT
CAM POWER IND OUT
AU-130
AT-55A/B
CAM POWER SWITCH IN
CAM POWER ON IN
R TALLY IN
Q14
R TALLY DRIVER
R TALLY IND OUT
G TALLY IN
Q13
G TALLY DRIVER
G TALLY IND OUT
PS-196/197 BOARD
CCU-370 (J,2C)
CCU-370P(A2)
A-26
A-27
E
F
G
H
I
J
K
L
1
2
3
4
5

FRAME WIRING (3/3)
CN-348 BOARD
CN-370 BOARD
IO-49 BOARD
TM-25 BOARD





FRAME WIRING (3/3)
CN-348 BOARD
CN-370 BOARD
IO-49 BOARD
CCU-370 (J)
CCU-370 (UC)
CCU-370P (AE)

SECTION D
SPARE PARTS

PARTS INFORMATION

1. **Safety Related Component Warning**

   Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service manual supplements published by Sony.

2. Replace parts that are supplied from Sony Parts Center can sometimes have different shape and external appearance than what are actually used in equipment. This is due to"accommodating the improved parts and/or engineering changes" or"standardization of genuine parts."
   - This manual's exploded view and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present."
   - Regarding engineering parts and diagrams changes in our engineering department, refer to Sony service bulletins and service manual supplements.

3. The parts marked with"S" in the SP column of the exploded views and electrical spare parts list are normally required for routine service work. Orders for parts marked with "O" will be processed, but allow for additional delivery time.

4. Item with no parts number and/or no description are not stocked because they are seldom required for routine service.

5. **Abbreviation**

REF. No.	DESCRIPTION	REF. No.	DESCRIPTION	REF. No.	DESCRIPTION
BT	BATTERY	**FB**	FERRITE BEAD	**RV**	VARIABLE RESISTOR
BZ	BUZZER	**FL**	FILTER	**RY**	RELAY
C	CAPACITOR	**IC**	IC	**S**	SWITCH
CN	CONNECTOR	**L**	INDUCTOR	**T**	TRANSFORMER
CP	COMBINATION PARTS	**LV**	VARIABLE INDUCTOR	**TH**	THERMISTOR
CV	VARIABLE CAPACITOR	**Q**	TRANSISTOR	**TM**	TIMER
D	DIODE	**R**	RESISTOR	**VDR**	VARISTOR
DL	DELAY LINE	**RB**	RESISTOR BLOCK	**X**	OSCILLATOR

All capacitors are in micro farads unless otherwise specified.
All inductors are in micro henries unless otherwise specified.
All resistors are in ohms.

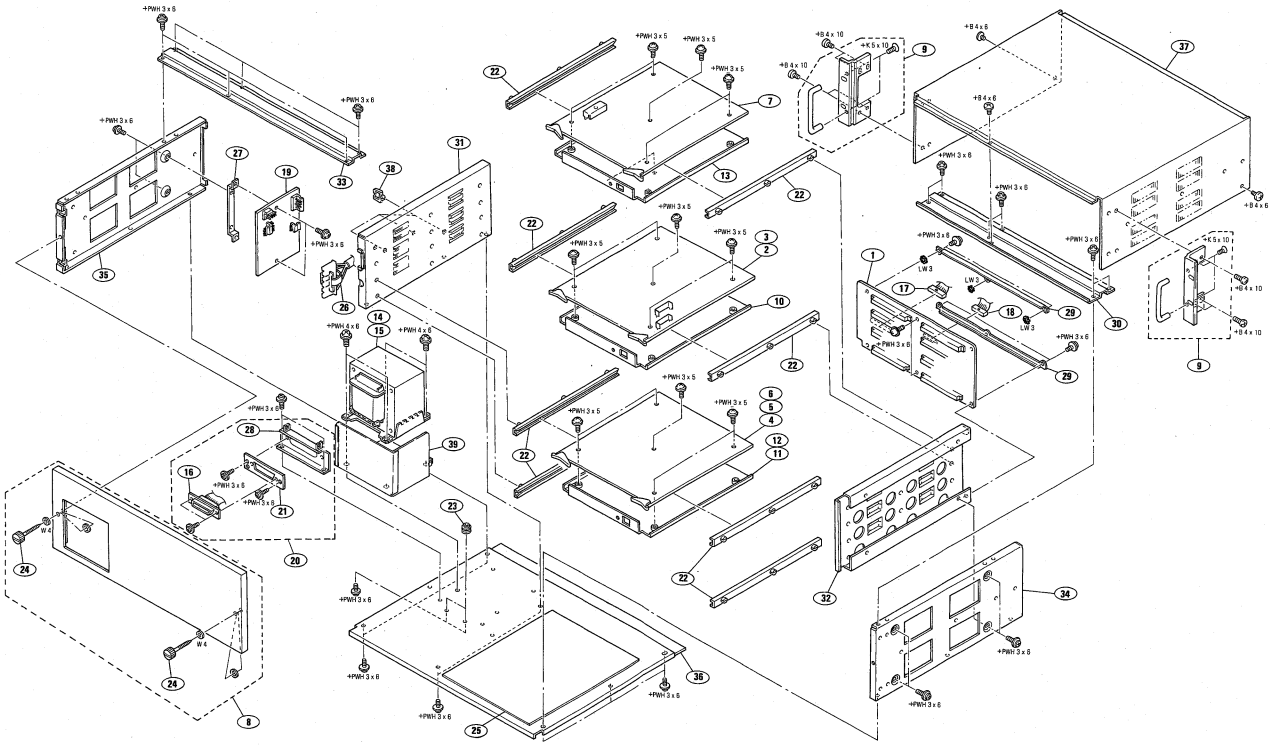
EXPLODED VIEW

CHASSIS BLOCK

No.	Part No.	SP	Description
1	A-7515-087-A	o	MOUNTED CIRCUIT BOARD, MB-271
2	A-7515-091-A	o	MOUNTED CIRCUIT BOARD, AT-55A (UC)
3	A-7515-092-A	o	MOUNTED CIRCUIT BOARD, AT-55B (J,AE
4	A-7515-093-A	o	MOUNTED CIRCUIT BOARD, VA-87A (UC)
5	A-7515-094-A	o	MOUNTED CIRCUIT BOARD, VA-87B (J)
6	A-7515-095-A	o	MOUNTED CIRCUIT BOARD, VA-87P (AE)
7	A-7515-096-A	o	MOUNTED CIRCUIT BOARD, DM-79
8	A-7612-379-A	o	PANEL ASSY, FRONT
9	X-2127-218-1	o	ANGLE (3U) ASSY, RACK
10	X-3740-812-1	o	PANEL ASSY (AT), PC BOARD
11	X-3740-813-1	o	PANEL ASSY (VA), PC BOARD (J,UC)
12	X-3740-814-1	o	PANEL ASSY (VA), PC BOARD (AE)
13	X-3740-815-1	o	PANEL ASSY (DM), PC BOARD
14	⚠1-449-937-11	s	TRANSFORMER, POWER (UC,AE)
15	⚠1-449-938-11	s	TRANSFORMER, POWER (J)
16	1-560-051-00	s	CONNECTOR, MULTI 50P MALE
17	1-575-357-11	o	CABLE, FLAT (DATA)
18	1-575-358-11	o	CABLE, FLAT (REM)
19	1-632-937-11	o	PRINTED CIRCUIT BOARD, CN-348
20	1-944-742-12	o	HARNESS (PS)
21	2-355-351-01	o	PLATE (FEMALE), GUIDE PIN
22	3-673-676-31	o	RAIL, PC BOARD GUIDE
23	3-676-125-00	o	PIN, STOPPER
24	3-687-887-01	s	SCREW (M4X20)
25	3-740-874-01	o	SHEET, INSULATING, CHASSIS
26	3-740-879-01	o	RING
27	3-740-881-01	o	BRACKET, CN PC BOARD
28	3-741-703-01	o	BRACKET, CONNECTOR
29	3-741-704-01	o	REINFORCEMENT, MB
30	3-741-707-01	o	STAY, FRONT
31	3-741-708-01	o	PLATE, INNER
32	3-741-709-01	o	BRACKET, PC BOARD RAIL
33	3-741-710-01	o	STAY, REAR
34	3-741-711-01	o	PLATE (RIGHT), SIDE
35	3-741-712-01	o	PLATE (LEFT), SIDE
36	3-741-718-01	o	PLATE, BOTTOM
37	3-741-719-01	o	COVER
38	4-309-753-00	o	HOLDER, WIRE

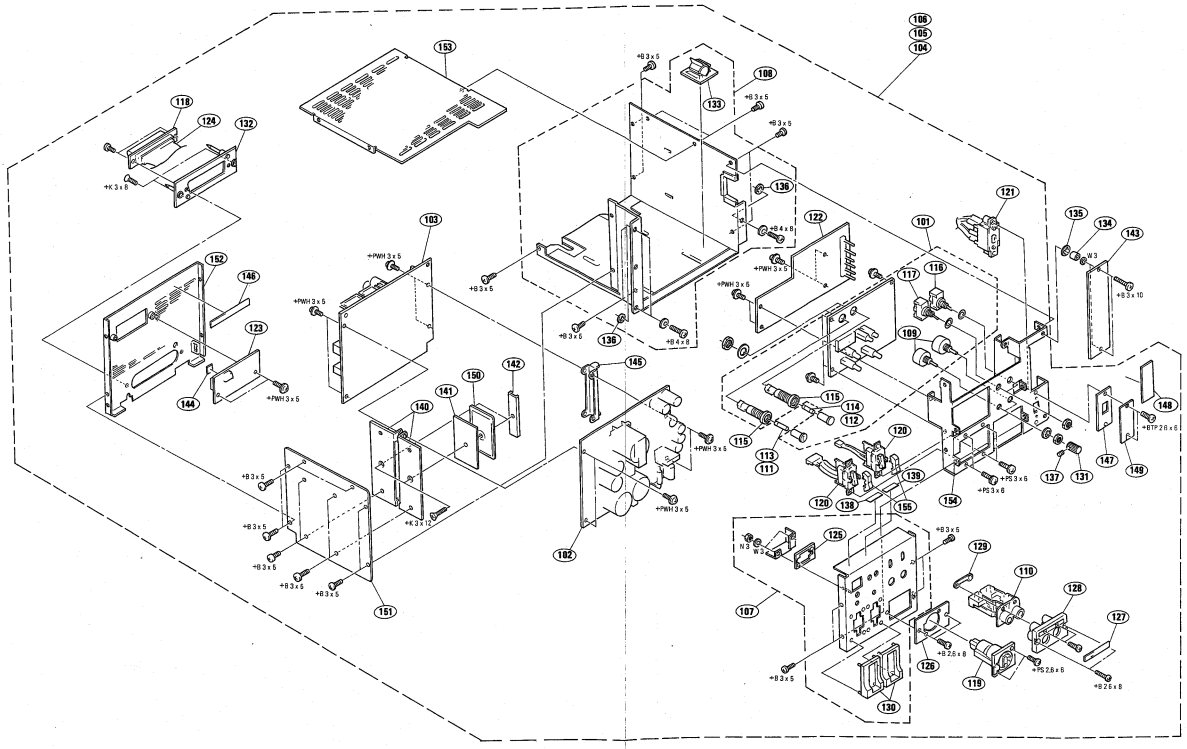
CHASSIS BLOCK

FRONT PANEL ASSY
CHASSIS ASSY



POWER BLOCK

FRONT PLATE ASSY
POWER CASE ASSY



POWER BLOCK

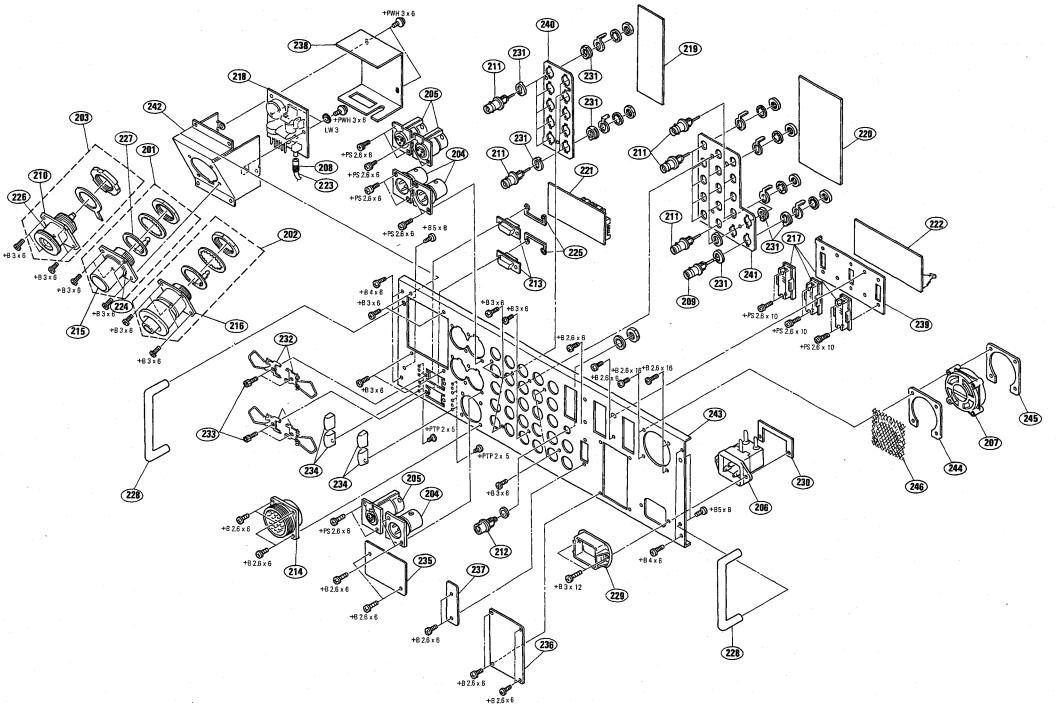
No.	Part No.	SP	Description
101	A-7515-088-A	o	MOUNTED CIRCUIT BOARD, AU-130
102	A-7515-089-A	o	MOUNTED CIRCUIT BOARD, PS-196
103	A-7515-090-A	o	MOUNTED CIRCUIT BOARD, PS-197
104	A-7581-020-A	s	POWER ASSY (UC)
105	A-7581-021-A	s	POWER ASSY (J)
106	A-7581-022-A	s	POWER ASSY (AE)
107	A-7612-380-A	o	PLATE ASSY, FRONT
108	X-3740-811-1	o	CASE ASSY, POWER
109	1-230-817-11	s	RES, VAR, CARBON 5K
110	1-507-676-00	s	JACK, PHONE "INCOM PGM" (J,AE)
111	⚠1-532-203-11	s	FUSE 2A 250V (AE)
112	⚠1-532-325-11	s	FUSE 6.3A 250V (AE)
113	⚠1-532-743-11	s	FUSE, 2A 125V (J,UC)
114	⚠1-532-748-11	s	FUSE, 6.3A 125V (J,UC)
115	1-533-191-11	s	HOLDER, FUSE
116	1-554-355-00	s	SWITCH, TOGGLE "MIC"
117	1-554-356-00	s	SWITCH, TOGGLE "PROG"
118	1-562-945-11	o	CONNECTOR, MULTI 50P FEMALE
119	1-563-159-11	s	CONNECTOR 5P FEMALE "INCOM PGM" (UC
120	⚠1-570-117-11	s	SWITCH, ROCKER (AC POWER)
121	1-570-173-11	s	SWITCH, VOLTAGE SELECTOR (UC,AE)
122	1-632-938-11	o	PRINTED CIRCUIT BOARD, CN-370
123	1-633-061-11	o	PRINTED CIRCUIT BOARD, TM-25
124	1-944-753-12	o	HARNESS (POWER)
125	2-126-605-01	o	COVER
126	2-128-245-01	o	PLATE (XLR), PHONE
127	2-251-642-00	o	GUARD, POWER SWITCH
128	2-270-649-00	s	KNOB, A
129	2-355-352-01	o	PLATE (MALE), GUIDE PIN
130	3-621-212-21	s	CLAMP, DKN
131	3-659-719-00	s	STOPPER, PUNCHING, M4 SCREW
132	3-685-166-01	o	WASHER, SCREW CLAMP
133	3-696-510-01	s	WASHER (3), STOPPER
134	3-701-505-00	s	SET SCREW, DOUBLE POINT 3X3
135	3-701-946-23	o	LABEL (2A125V), FUSE
136	3-701-946-28	o	LABEL (6.3A125V), FUSE
137	3-740-871-01	o	HEAT SINK
138	3-740-872-02	o	SHEET, COOL
139	3-740-875-01	o	RETAINER
140	3-740-878-01	o	COVER, PROTECTION
141	3-740-880-01	o	SHEET, BLIND, TIMER SW
142	3-740-886-01	o	SUPPORT
143	3-740-888-01	o	SHEET, INDICATION, TP
144	3-740-889-01	o	PLATE, INDICATION, VOLTAGE (UC,AE)
145	3-740-890-01	o	PLATE, BLIND, SW (J)
146	3-740-891-01	o	COVER, INDICATION PLATE (UC,AE)
147	3-740-892-02	o	SHEET, TR SHIELD
148	3-740-899-01	o	PLATE, SIDE, POWER
149	3-741-701-01	o	PLATE, REAR
150	3-741-702-01	o	PLATE, UPPER
151	3-741-705-01	o	BRACKET, FRONT

REAR PANEL BLOCK

No.	Part No.	SP	Description
201	A-7603-137-A	o	TRIAX ASSY (K) (UC)
202	A-7603-138-A	o	TRIAX ASSY (T) (J)
203	A-7603-139-A	o	TRIAX ASSY (F) (AE)
204	1-509-176-31	s	CONNECTOR, 3P MALE "RTS"(UC)/ "MIC OUTPUT" (UC,AE)
205	1-509-184-31	s	CONNECTOR, 3P FEMALE "RTS"(UC)/ "MIC OUTPUT" (J)
206	⚠1-540-118-11	s	INLET, AC 3P MALE
207	1-541-742-11	s	MOTOR, FAN DC
208	1-560-163-00	s	PLUG, RF
209	1-560-494-11	o	CONNECTOR, COAXIAL (BNC RF)
210	1-560-744-11	s	CONNECTOR, COAXIAL, TRIAX "CAMERA" (AE)
211	1-561-336-41	s	CONNECTOR, COAXIAL
212	1-561-376-00	s	CONNECTOR (S) 4P FEMALE "WF MODE"
213	1-563-890-21	s	CONNECTOR, D-SUB 9P FEMALE "REMOTE MIC" "REMOTE INTERCOM"
214	1-564-971-11	o	CONNECTOR, MULTI 19P MALE "INTERCOM/ TALLY/ PGM"
215	1-565-796-11	s	CONNECTOR, DOUBLE COAXIAL, TRIAX "CAMERA" (UC)
216	1-565-798-11	s	CONNECTOR, DOUBLE COAXIAL, TRIAX "CAMERA" (J)
217	1-569-133-11	o	CONNECTOR, MULTI "MSU" "RCP"
218	1-632-940-11	o	PRINTED CIRCUIT BOARD, IO-49
219	1-633-054-11	o	PRINTED CIRCUIT BOARD, CN-342
220	1-633-055-11	o	PRINTED CIRCUIT BOARD, CN-343
221	1-633-056-11	o	PRINTED CIRCUIT BOARD, CN-341
222	1-633-057-11	o	PRINTED CIRCUIT BOARD, CN-344
223	1-942-761-11	o	HARNESS (R-VIDEO)
224	2-132-244-01	o	SPACER
225	2-139-018-01	s	NUT (D SUB 9P), PLATE
226	2-361-587-00	o	SLEEVE (AE)
227	2-365-236-00	o	LUG (K), GROUND
228	2-378-801-01	o	HANDLE
229	2-990-241-01	o	HOLDER (A), PLUG
230	3-625-620-00	s	BRACKET, AC CONNECTOR
231	3-654-545-00	s	SPACER, BNC
232	3-668-460-00	o	SPRING
233	3-717-327-01	o	SCREW (9P), CONNECTOR
234	3-717-380-01	o	GUARD, REC
235	3-740-882-01	o	PLATE, BLIND, RTS (J,AE)
236	3-740-883-01	o	PLATE, BLIND, AUX
237	3-740-884-01	o	PLATE, BLIND, DATA
238	3-740-885-01	o	LID, TRIAX BOX
239	3-740-893-01	o	PANEL, CONNECTOR, 16P
240	3-740-894-01	s	PLATE (IN), BNC
241	3-740-895-01	o	PLATE (OUT), BNC
242	3-741-713-01	o	BOX, TRIAX
243	3-741-714-01	o	PANEL, REAR
244	3-741-750-01	o	RETAINER, FAN NET
245	3-741-751-01	o	BRACKET, FAN
246	3-741-752-01	o	NET, FAN

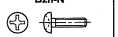
REAR PANEL BLOCK

REAR ASSY
TRIAX ASSY



SCREWS

+B Bzn-N



7-621-□□□-□□

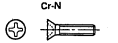
Size	Parts No.
2 × 3	772-00
× 4	772-10
× 5	772-20
× 6	772-30
× 8	772-40
× 10	772-50
× 12	772-60
× 14	772-70
× 16	772-80
× 20	–
2.6 × 3	775-00
× 4	775-10
× 5	775-20
× 6	773-95
× 8	775-40
× 10	775-50
× 12	775-60
× 14	775-70
× 16	775-80
× 20	775-90

+PS Czn-N

7-628-□□□-□□

Size	Parts No.
2 × 4	255-20
× 5	283-00
× 6	255-40
× 8	255-50
× 10	283-10
× 12	283-70
2.6 × 4	284-00
× 5	284-10
× 6	284-20
× 8	284-30
× 10	284-40
× 12	259-70
× 14	259-80
× 16	260-00
× 20	260-20

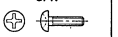
+K Cr-N



7-682-□□□-□□

SIZE	Parts No.
3 x 4	245-04
x 5	246-04
x 6	247-04
x 8	248-04
x 10	249-04
x 12	250-04
x 14	251-04
x 16	252-04
x 20	253-04
4 x 6	260-04
x 8	261-04
x 10	262-04
x 12	263-04
x 14	264-04
x 16	265-04
x 20	266-04

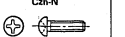
+B Cr-N



7-682-□□□-□□

Size	Parts No.
3 × 3	544-04
× 4	545-04
× 5	546-04
× 6	547-04
× 8	548-04
× 10	549-04
× 12	550-04
× 14	551-04
× 16	552-04
× 20	553-04
4 × 4	558-04
× 5	559-04
× 6	560-04
× 8	561-04
× 10	562-04
× 12	563-04
× 14	564-04
× 16	565-04
× 20	566-04
× 25	567-04
× 30	568-04
× 35	569-04
× 40	570-04
× 45	571-04
× 50	572-04
5 × 8	574-04
× 10	575-04
× 12	576-04
× 14	577-04
× 16	578-04
× 20	579-04
× 25	580-04
× 30	581-04

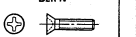
+P Czn-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	255-15
x 4	255-25
x 5	255-35
x 6	255-45
x 8	255-55
x 10	255-65
x 12	255-75
x 14	255-85
x 16	256-05
x 20	256-25
2.3 x 5	257-35
x 6	257-45
x 8	257-55
x 10	257-65
x 12	257-75
x 14	257-85
x 16	258-05
x 20	258-25
2.6 x 3	259-15
x 4	259-25
x 5	259-35
x 6	259-45
x 8	259-55
x 10	259-65
x 12	259-75
x 14	259-85
x 16	260-05
x 20	260-25

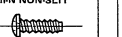
+K Bzn-N



7-682-□□□-□□

SIZE	Parts No.
3 x 4	245-09
x 5	246-09
x 6	247-09
x 8	248-09
x 10	249-09
x 12	250-09
x 14	251-09
x 16	252-09
x 20	253-09
4 x 6	260-09
x 8	261-09
x 10	262-09
x 12	263-09
x 14	264-09
x 16	265-09
x 20	266-09
5 x 8	274-09
x 10	275-09
x 12	276-09
x 14	277-09
x 16	278-09
x 20	279-09
x 25	280-09
x 30	281-09
x 35	282-09
x 40	283-09
x 45	284-09
x 50	285-09

+BTP Bzn-N NON-SLIT



7-685-□□□-□□

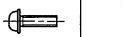
SIZE	Parts No.
2.6 x 4	531-19
2.6 x 5	532-19
2.6 x 6	533-19
2.6 x 8	534-19
2.6 x 10	535-19
2.6 x 12	536-19
2.6 x 14	537-19
2.6 x 16	538-19
3 x 5	544-19
3 x 6	545-19
3 x 8	546-19
3 x 10	547-19
3 x 12	548-19
3 x 14	549-19
3 x 16	550-19
3 x 20	551-19
3 x 25	552-19
3 x 30	553-19
3 x 35	554-19
3 x 40	555-19
3 x 45	–
3 x 50	596-19
3 x 60	–

+PSW Czn-N

7-682-□□□-□□

SIZE	Parts No.
3 x 6	947-01
x 8	948-01
x 10	949-01
x 12	950-01
x 14	951-01
x 16	952-01
x 20	953-01
x 25	954-01
x 30	955-01
x 35	956-01
x 40	957-01
4 x 8	961-01
x 10	962-01
x 12	963-01
x 14	964-01
x 16	965-01
x 20	966-01
x 25	967-01
x 30	968-01
x 35	969-01
x 40	970-01

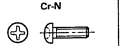
+PWH



7-682-□□□-□□

SIZE	Parts No.
2.6 x 4	–
x 5	902-11
x 6	902-21
x 8	902-31
x 10	–
x 12	902-51
x 14	–
3 x 5	903-01
x 6	903-11
x 8	903-21
x 10	903-31
x 12	903-41
x 14	–
4 x 6	904-01
x 8	904-11
x 10	904-21
x 12	904-31
x 14	904-41
x 16	–
x 20	–

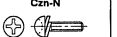
+B Cr-N



7-621-□□□-□□

SIZE	Parts No.
2 x 3	772-08
x 4	772-18
x 5	771-06
x 6	772-38
x 8	772-48
x 10	772-58
x 12	772-68
x 14	772-78
x 16	772-88
x 20	–
2.6 x 3	775-08
x 4	773-86
x 5	770-87
x 6	770-67
x 8	770-99
x 10	773-87
x 12	775-68
x 14	775-78
x 16	775-88
x 20	773-91

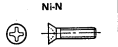
+PS Czn-N



7-682-□□□-□□

Size	Parts No.
3 × 5	646-01
× 6	647-01
× 8	648-01
× 10	649-01
× 12	650-01
× 14	651-01
× 16	652-01
× 20	653-01
4 × 6	660-01
× 8	661-01
× 10	662-01
× 12	663-01
× 14	664-01
× 16	665-01
× 20	666-01

+K Ni-N



7-682-□□□-□□

SIZE	Parts No.
3 x 4	245-13
x 5	246-13
x 6	247-13
x 8	248-13
x 10	249-13
x 12	250-13
x 14	251-13
x 16	252-13
x 20	253-13
4 x 6	260-13
x 8	261-13
x 10	262-13
x 12	263-13
x 14	264-13
x 16	265-13
x 20	266-13

CAPACITOR, TANTALUM

Part No.	SP	Description			
1-131-396-00	s	CAP, TANTALUM	0.01	20%	35V
1-131-397-00	s	CAP, TANTALUM	0.015	20%	35V
1-131-398-00	s	CAP, TANTALUM	0.022	20%	35V
1-131-399-00	s	CAP, TANTALUM	0.033	20%	35V
1-131-400-00	s	CAP, TANTALUM	0.047	20%	35V
1-131-401-00	s	CAP, TANTALUM	0.068	10%	35V
1-131-341-00	s	CAP, TANTALUM	0.1	10%	35V
1-131-342-00	s	CAP, TANTALUM	0.15	10%	35V
1-131-343-00	s	CAP, TANTALUM	0.22	10%	35V
1-131-344-00	s	CAP, TANTALUM	0.33	10%	35V
1-131-412-00	s	CAP, TANTALUM	0.47	20%	20V
1-131-345-00	s	CAP, TANTALUM	0.47	10%	35V
1-131-410-00	s	CAP, TANTALUM	0.68	20%	25V
1-131-587-11	s	CAP, TANTALUM	0.68	10%	35V
1-131-413-00	s	CAP, TANTALUM	1.0	20%	20V
1-131-347-00	s	CAP, TANTALUM	1.0	10%	35V
1-131-416-00	s	CAP, TANTALUM	1.5	20%	16V
1-131-348-00	s	CAP, TANTALUM	1.5	10%	35V
1-131-419-00	s	CAP, TANTALUM	2.2	20%	10V
1-131-361-00	s	CAP, TANTALUM	2.2	10%	20V
1-131-349-00	s	CAP, TANTALUM	2.2	10%	35V
1-131-422-00	s	CAP, TANTALUM	3.3	20%	6.3V
1-131-368-00	s	CAP, TANTALUM	3.3	10%	16V
1-131-356-00	s	CAP, TANTALUM	3.3	10%	25V
1-131-350-00	s	CAP, TANTALUM	3.3	10%	35V
1-131-425-00	s	CAP, TANTALUM	4.7	20%	3.15V
1-131-375-00	s	CAP, TANTALUM	4.7	10%	10V
1-131-383-00	s	CAP, TANTALUM	4.7	10%	20V
1-131-351-00	s	CAP, TANTALUM	4.7	10%	35V
1-131-382-00	s	CAP, TANTALUM	6.8	10%	6.3V
1-131-370-00	s	CAP, TANTALUM	6.8	10%	16V
1-131-358-00	s	CAP, TANTALUM	6.8	10%	25V
1-131-352-00	s	CAP, TANTALUM	6.8	10%	35V
1-131-389-00	s	CAP, TANTALUM	10	10%	3.15V
1-131-377-00	s	CAP, TANTALUM	10	10%	10V
1-131-365-00	s	CAP, TANTALUM	10	10%	20V
1-131-353-00	s	CAP, TANTALUM	10	10%	35V
1-131-384-00	s	CAP, TANTALUM	15	10%	6.3V
1-131-372-00	s	CAP, TANTALUM	15	10%	16V
1-131-360-00	s	CAP, TANTALUM	15	10%	25V
1-131-391-00	s	CAP, TANTALUM	22	10%	3.15V
1-131-379-00	s	CAP, TANTALUM	22	10%	10V
1-131-367-00	s	CAP, TANTALUM	22	10%	20V
1-131-386-00	s	CAP, TANTALUM	33	10%	6.3V
1-131-374-00	s	CAP, TANTALUM	33	10%	16V
1-131-393-00	s	CAP, TANTALUM	47	10%	3.15V
1-131-381-00	s	CAP, TANTALUM	47	10%	10V
1-131-388-00	s	CAP, TANTALUM	68	10%	6.3V
1-131-395-00	s	CAP, TANTALUM	100	10%	3.15V

CAPACITOR, CHIP CERAMIC

Part No.	SP	Description			
1-163-083-00	s	CAP, CHIP CERAMIC	1pF	+-0.25pF	50V
1-163-085-00	s	CAP, CHIP CERAMIC	2pF	+-0.25pF	50V
1-163-087-00	s	CAP, CHIP CERAMIC	4pF	+-0.25pF	50V
1-163-089-00	s	CAP, CHIP CERAMIC	6pF	+-0.5pF	50V
1-163-091-00	s	CAP, CHIP CERAMIC	8pF	+-0.5pF	50V
1-163-093-00	s	CAP, CHIP CERAMIC	10p	5%	50V
1-163-097-00	s	CAP, CHIP CERAMIC	15pF	5%	50V
1-163-101-00	s	CAP, CHIP CERAMIC	22pF	5%	50V
1-163-105-00	s	CAP, CHIP CERAMIC	33pF	5%	50V
1-163-109-00	s	CAP, CHIP CERAMIC	47pF	5%	50V
1-163-113-00	s	CAP, CHIP CERAMIC	68pF	5%	50V
1-163-117-00	s	CAP, CHIP CERAMIC	100pF	5%	50V
1-163-121-00	s	CAP, CHIP CERAMIC	150pF	5%	50V
1-163-125-00	s	CAP, CHIP CERAMIC	220pF	5%	50V
1-163-129-00	s	CAP, CHIP CERAMIC	330pF	5%	50V
1-163-133-00	s	CAP, CHIP CERAMIC	470pF	5%	50V
1-163-137-00	s	CAP, CHIP CERAMIC	680pF	5%	50V
1-163-141-00	s	CAP, CHIP CERAMIC	1000pF	5%	50V
1-163-145-00	s	CAP, CHIP CERAMIC	1500pF	10%	50V
1-164-161-11	s	CAP, CHIP CERAMIC	2200pF	10%	100V
1-164-182-11	s	CAP, CHIP CERAMIC	3300pF	10%	100V
1-163-017-00	s	CAP, CHIP CERAMIC	4700pF	10%	50V
1-163-019-00	s	CAP, CHIP CERAMIC	6800pF	10%	50V
1-164-232-11	s	CAP, CHIP CERAMIC	0.01	20%	100V
1-163-023-00	s	CAP, CHIP CERAMIC	0.015	10%	50V
1-163-034-00	s	CAP, CHIP CERAMIC	0.033		50V
1-163-035-00	s	CAP, CHIP CERAMIC	0.047		50V
1-163-036-00	s	CAP, CHIP CERAMIC	0.068		50V
1-163-038-00	s	CAP, CHIP CERAMIC	0.1		50V

CAPACITOR, ELECTROLYTIC

Part No.	SP	Description			
1-124-463-11	s	CAP, ELECT	0.1	20%	50V
1-124-464-11	s	CAP, ELECT	0.22	20%	50V
1-124-252-11	s	CAP, ELECT	0.33	20%	50V
1-124-465-21	s	CAP, ELECT	0.47	20%	50V
1-124-438-11	s	CAP, ELECT	1.0	20%	50V
1-124-257-11	s	CAP, ELECT	2.2	20%	50V
1-126-152-11	s	CAP, ELECT	3.3	20%	50V
1-124-245-11	s	CAP, ELECT	4.7	20%	35V
1-124-259-11	s	CAP, ELECT	4.7	20%	50V
1-126-157-11	s	CAP, ELECT	10	20%	10V
1-124-233-11	s	CAP, ELECT	10	20%	16V
1-126-247-11	s	CAP, ELECT	10	20%	35V
1-124-261-11	s	CAP, ELECT	10	20%	50V
1-126-153-11	s	CAP, ELECT	22	20%	6.3V
1-124-234-00	s	CAP, ELECT	22	20%	10V
1-124-248-11	s	CAP, ELECT	22	20%	35V
1-124-431-11	s	CAP, ELECT	33	20%	4V
1-124-229-00	s	CAP, ELECT	33	20%	10V
1-124-242-00	s	CAP, ELECT	33	20%	25V
1-126-154-11	s	CAP, ELECT	47	20%	6.3V
1-124-589-11	s	CAP, ELECT	47	20%	16V
1-124-584-11	s	CAP, ELECT	100	20%	10V

INDUCTOR, MICRO

Part No.	SP	Description		
1-408-876-00	s	INDUCTOR, MICRO	0.18	5%
1-408-877-00	s	INDUCTOR, MICRO	0.22	5%
1-408-878-00	s	INDUCTOR, MICRO	0.33	5%
1-408-879-21	s	INDUCTOR, MICRO	0.47	5%
1-408-931-00	s	INDUCTOR, MICRO	0.56	5%
1-408-880-00	s	INDUCTOR, MICRO	0.68	5%
1-408-763-00	s	INDUCTOR, MICRO	0.82	5%
1-408-397-00	s	INDUCTOR, MICRO	1.0	5%
1-408-398-00	s	INDUCTOR, MICRO	1.2	5%
1-408-399-00	s	INDUCTOR, MICRO	1.5	5%
1-408-400-00	s	INDUCTOR, MICRO	1.8	5%
1-408-401-00	s	INDUCTOR, MICRO	2.2	5%
1-408-402-00	s	INDUCTOR, MICRO	2.7	5%
1-408-403-00	s	INDUCTOR, MICRO	3.3	5%
1-408-404-00	s	INDUCTOR, MICRO	3.9	5%
1-408-405-00	s	INDUCTOR, MICRO	4.7	5%
1-408-406-00	s	INDUCTOR, MICRO	5.6	5%
1-408-407-00	s	INDUCTOR, MICRO	6.8	5%
1-408-408-00	s	INDUCTOR, MICRO	8.2	5%
1-408-409-00	s	INDUCTOR, MICRO	10	5%
1-408-410-00	s	INDUCTOR, MICRO	12	5%
1-408-411-00	s	INDUCTOR, MICRO	15	5%
1-408-412-00	s	INDUCTOR, MICRO	18	5%
1-408-413-00	s	INDUCTOR, MICRO	22	5%
1-408-414-00	s	INDUCTOR, MICRO	27	5%
1-408-415-00	s	INDUCTOR, MICRO	33	5%
1-408-416-00	s	INDUCTOR, MICRO	39	5%
1-408-417-21	s	INDUCTOR, MICRO	47	5%
1-408-418-00	s	INDUCTOR, MICRO	56	5%
1-408-419-00	s	INDUCTOR, MICRO	68	5%
1-408-420-00	s	INDUCTOR, MICRO	82	5%
1-408-421-00	s	INDUCTOR, MICRO	100	5%
1-408-422-00	s	INDUCTOR, MICRO	120	5%
1-408-423-00	s	INDUCTOR, MICRO	150	5%
1-408-424-00	s	INDUCTOR, MICRO	180	5%
1-408-425-00	s	INDUCTOR, MICRO	220	5%
1-408-426-00	s	INDUCTOR, MICRO	270	5%
1-408-427-00	s	INDUCTOR, MICRO	330	5%
1-408-428-00	s	INDUCTOR, MICRO	390	5%
1-408-429-00	s	INDUCTOR, MICRO	470	5%

RESISTOR, CHIP

Part No.	SP	Description			
1-216-295-00	s	RES, CHIP	0	5%	1/10W
1-216-296-00	s	RES, CHIP	2.2	5%	1/10W
1-216-302-00	s	RES, CHIP	2.7	5%	1/10W
1-216-304-11	s	RES, CHIP	3.3	5%	1/10W
1-216-306-11	s	RES, CHIP	3.9	5%	1/10W
1-216-308-00	s	RES, CHIP	4.7	5%	1/10W
1-216-309-00	s	RES, CHIP	5.6	5%	1/10W
1-216-311-00	s	RES, CHIP	6.8	5%	1/10W
1-216-313-00	s	RES, CHIP	8.2	5%	1/10W
1-216-001-00	s	RES, CHIP	10	5%	1/10W
1-216-003-11	s	RES, CHIP	12	5%	1/10W
1-216-005-00	s	RES, CHIP	15	5%	1/10W
1-216-007-00	s	RES, CHIP	18	5%	1/10W
1-216-009-00	s	RES, CHIP	22	5%	1/10W
1-216-011-00	s	RES, CHIP	27	5%	1/10W
1-216-013-00	s	RES, CHIP	33	5%	1/10W
1-216-015-00	s	RES, CHIP	39	5%	1/10W
1-216-017-00	s	RES, CHIP	47	5%	1/10W
1-216-019-00	s	RES, CHIP	56	5%	1/10W
1-216-021-00	s	RES, CHIP	68	5%	1/10W
1-216-023-00	s	RES, CHIP	82	5%	1/10W
1-216-025-00	s	RES, CHIP	100	5%	1/10W
1-216-027-00	s	RES, CHIP	120	5%	1/10W
1-216-029-00	s	RES, CHIP	150	5%	1/10W
1-216-031-00	s	RES, CHIP	180	5%	1/10W
1-216-033-00	s	RES, CHIP	220	5%	1/10W
1-216-035-00	s	RES, CHIP	270	5%	1/10W
1-216-037-00	s	RES, CHIP	330	5%	1/10W
1-216-039-00	s	RES, CHIP	390	5%	1/10W
1-216-041-00	s	RES, CHIP	470	5%	1/10W
1-216-043-00	s	RES, CHIP	560	5%	1/10W
1-216-045-00	s	RES, CHIP	680	5%	1/10W
1-216-047-00	s	RES, CHIP	820	5%	1/10W
1-216-049-00	s	RES, CHIP	1k	5%	1/10W
1-216-051-00	s	RES, CHIP	1.2k	5%	1/10W
1-216-053-00	s	RES, CHIP	1.5k	5%	1/10W
1-216-055-00	s	RES, CHIP	1.8k	5%	1/10W
1-216-057-00	s	RES, CHIP	2.2k	5%	1/10W
1-216-059-00	s	RES, CHIP	2.7k	5%	1/10W
1-216-061-00	s	RES, CHIP	3.3k	5%	1/10W
1-216-063-00	s	RES, CHIP	3.9k	5%	1/10W
1-216-065-00	s	RES, CHIP	4.7k	5%	1/10W
1-216-067-00	s	RES, CHIP	5.6k	5%	1/10W
1-216-069-00	s	RES, CHIP	6.8k	5%	1/10W
1-216-071-00	s	RES, CHIP	8.2k	5%	1/10W
1-216-073-00	s	RES, CHIP	10k	5%	1/10W
1-216-075-00	s	RES, CHIP	12k	5%	1/10W
1-216-077-00	s	RES, CHIP	15k	5%	1/10W
1-216-079-00	s	RES, CHIP	18k	5%	1/10W
1-216-081-00	s	RES, CHIP	22k	5%	1/10W
1-216-083-00	s	RES, CHIP	27k	5%	1/10W
1-216-085-00	s	RES, CHIP	33k	5%	1/10W
1-216-746-11	s	RES, CHIP	39k	5%	1/10W
1-216-089-00	s	RES, CHIP	47k	5%	1/10W
1-216-091-00	s	RES, CHIP	56k	5%	1/10W

RESISTOR, CHIP

Part No.	SP	Description			
1-216-093-00	s	RES, CHIP	68k	5%	1/10W
1-216-095-00	s	RES, CHIP	82k	5%	1/10W
1-216-097-00	s	RES, CHIP	100k	5%	1/10W
1-216-099-00	s	RES, CHIP	120k	5%	1/10W
1-216-101-00	s	RES, CHIP	150k	5%	1/10W
1-216-103-00	s	RES, CHIP	180k	5%	1/10W
1-216-105-00	s	RES, CHIP	220k	5%	1/10W
1-216-107-00	s	RES, CHIP	270k	5%	1/10W
1-216-109-00	s	RES, CHIP	330k	5%	1/10W
1-216-111-00	s	RES, CHIP	390k	5%	1/10W
1-216-113-00	s	RES, CHIP	470k	5%	1/10W
1-216-115-00	s	RES, CHIP	560k	5%	1/10W
1-216-117-00	s	RES, CHIP	680k	5%	1/10W
1-216-119-00	s	RES, CHIP	820k	5%	1/10W
1-216-121-00	s	RES, CHIP	1.0M	5%	1/10W
1-216-123-11	s	RES, CHIP	1.2M	5%	1/10W
1-216-125-00	s	RES, CHIP	1.5M	5%	1/10W
1-216-127-11	s	RES, CHIP	1.8M	5%	1/10W
1-216-129-00	s	RES, CHIP	2.2M	5%	1/10W
1-216-131-11	s	RES, CHIP	2.7M	5%	1/10W
1-216-133-00	s	RES, CHIP	3.3M	5%	1/10W

AT-55B BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-092-A	o	MOUNTED CIRCUIT BOARD, AT-55B
8pcs	1-533-189-11	o	HOLDER, FUSE
2pcs	1-562-372-00	s	SOCKET, SHORT 2P
2pcs	1-808-924-11	s	HYBRID IC (4W BOARD)
2pcs	2-251-622-00	s	LEVER, PC BOARD
2pcs	3-741-748-01	o	PLATE, SHIELD, AT
3pcs	7-622-207-05	s	N 2.6, TYPE 2
1pc	7-625-924-01	s	WASHER 3.0, NYLONE
2pcs	7-626-317-11	s	PIN, SPRING 2.5X6
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
5pcs	7-682-903-01	s	SCREW +PWH 3X5
C15	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C20	1-163-119-00	s	CERAMIC CHIP 120PF 5% 50V
C21	1-163-111-00	s	CERAMIC CHIP 56PF 5% 50V
C22	1-163-011-11	s	CERAMIC CHIP 0.0015uF 10% 50V
C25	1-124-257-00	s	ELECT 2.2uF 20% 50V
C27	1-126-094-11	s	ELECT 4.7uF 20% 16V
C29	1-162-768-11	s	CERAMIC 0.0018uF 5% 50V
C30	1-163-037-11	s	CERAMIC CHIP 0.022uF 10% 25V
C32	1-161-485-00	s	CERAMIC 0.1uF 50V
C53	1-126-160-11	s	ELECT 1uF 20% 50V
C54	1-124-442-00	s	ELECT 330uF 20% 6.3V
C56	1-163-131-00	s	CERAMIC CHIP 390PF 5% 50V
C73	1-126-160-11	s	ELECT 1uF 20% 50V
C74	1-124-442-00	s	ELECT 330uF 20% 6.3V
C76	1-163-131-00	s	CERAMIC CHIP 390PF 5% 50V
C84	1-163-011-11	s	CERAMIC CHIP 0.0015uF 10%.50V
C93	1-126-160-11	s	ELECT 1uF 20% 50V
C94	1-124-442-00	s	ELECT 330uF 20% 6.3V
C96	1-163-131-00	s	CERAMIC CHIP 390PF 5% 50V
C104	1-163-011-11	s	CERAMIC CHIP 0.0015uF 10% 50V
C113	1-126-160-11	s	ELECT 1uF 20% 50V
C114	1-124-442-00	s	ELECT 330uF 20% 6.3V
C116	1-163-131-00	s	CERAMIC CHIP 390PF 5% 50V
C125	1-163-105-00	s	CERAMIC CHIP 33PF 5% 50V
C126	1-163-105-00	s	CERAMIC CHIP 33PF 5% 50V
C127	1-102-943-00	s	CERAMIC 6PF 1PF 50V
C135	1-163-131-00	s	CERAMIC CHIP 390PF 5% 50V
C139	1-163-119-00	s	CERAMIC CHIP 120PF 5% 50V
C142	1-130-489-00	s	MYLAR 0.033uF 5% 50V
C155	1-163-131-00	s	CERAMIC CHIP 390PF 5% 50V
C159	1-163-119-00	s	CERAMIC CHIP 120PF 5% 50V
C162	1-130-489-00	s	MYLAR 0.033uF 5% 50V
C175	1-163-131-00	s	CERAMIC CHIP 390PF 5% 50V
C179	1-163-119-00	s	CERAMIC CHIP 120PF 5% 50V
C182	1-130-489-00	s	MYLAR 0.033uF 5% 50V
C194	1-163-131-00	s	CERAMIC CHIP 390PF 5% 50V
C204	1-163-131-00	s	CERAMIC CHIP 390PF 5% 50V
C211	1-126-094-11	s	ELECT 4.7uF 20% 16V
C230	1-124-120-11	s	ELECT 220uF 20% 25V
C231	1-126-176-11	s	ELECT 220uF 20% 10V
C232	1-124-120-11	s	ELECT 220uF 20% 25V
C233	1-126-176-11	s	ELECT 220uF 20% 10V
C235	1-126-176-11	s	ELECT 220uF 20% 10V
C236	1-126-176-11	s	ELECT 220uF 20% 10V
C237	1-124-120-11	s	ELECT 220uF 20% 25V
C238	1-124-120-11	s	ELECT 220uF 20% 25V
C250	1-163-123-00	s	CERAMIC CHIP 180PF 5% 50V

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Ref. No. or Q'ty	Part No.	SP	Description
C260	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C270	1-161-485-00	s	CERAMIC 0.1uF 50V
C271	1-161-485-00	s	CERAMIC 0.1uF 50V
C272	1-161-485-00	s	CERAMIC 0.1uF 50V
C273	1-161-485-00	s	CERAMIC 0.1uF 50V
C274	1-161-485-00	s	CERAMIC 0.1uF 50V
C275	1-161-485-00	s	CERAMIC 0.1uF 50V
C500	1-126-103-11	s	ELECT 470uF 20% 16V
C501	1-124-472-11	s	ELECT 470uF 20% 10V
C502	1-126-176-11	s	ELECT 220uF 20% 10V
C504	1-124-442-00	s	ELECT 330uF 20% 6.3V
C505	1-124-471-00	s	ELECT 1000uF 20% 6.3V
C506	1-126-103-11	s	ELECT 470uF 20% 16V
C518	1-124-442-00	s	ELECT 330uF 20% 6.3V
C534	1-163-135-00	s	CERAMIC CHIP 560PF 5% 50V
C536	1-107-207-00	s	MICA 16PF 5% 500V
C538	1-107-207-00	s	MICA 16PF 5% 500V
C552	1-163-135-00	s	CERAMIC CHIP 560PF 5% 50V
C554	1-161-051-00	s	CERAMIC 0.01uF 10% 25V
C555	1-161-051-00	s	CERAMIC 0.01uF 10% 25V
CF1	1-567-458-11	s	5.5MHz
CF2	1-567-458-11	s	5.5MHz
CF3	1-567-100-00	s	CERAMIC FILTER 6.0MHZ
CF4	1-567-100-00	s	CERAMIC FILTER 6.0MHZ
CF5	1-578-067-11	s	FILTER, CERAMIC
CF6	1-578-067-11	s	FILTER, CERAMIC
CF7	1-578-068-11	s	FILTER, CERAMIC
CF8	1-578-068-11	s	FILTER, CERAMIC
CF9	1-578-069-11	s	FILTER, CERAMIC
CF10	1-578-069-11	s	FILTER, CERAMIC
CF11	1-577-203-11	s	FILTER, CERAMIC 3.6MHz
CF12	1-577-204-11	s	FILTER, CERAMIC 3.9MHz
CF13	1-578-065-11	s	FILTER, CERAMIC
CN1	1-562-729-11	o	CONNECTOR, MULTI 64P, MALE
CN2	1-562-729-11	o	CONNECTOR, MULTI 64P, MALE
CN164	1-526-662-21	s	SOCKET, IC (DP) 40P
CN178	1-526-662-21	s	SOCKET, IC (DP) 40P
CN184	1-526-662-21	s	SOCKET, IC (DP) 40P
D1	8-719-104-34	s	DIODE 1SS236
D2	8-719-948-47	s	DIODE HSM88AS
D3	8-719-800-76	s	DIODE 1SS226
D4	8-719-949-35	s	DIODE FC53M-6
D5	8-719-800-76	s	DIODE 1SS226
D6	8-719-800-76	s	DIODE 1SS226
D7	8-719-800-76	s	DIODE 1SS226
D8	8-719-800-76	s	DIODE 1SS226
D9	8-719-949-35	s	DIODE FC53M-6
D10	8-719-800-76	s	DIODE 1SS226
D11	8-719-800-76	s	DIODE 1SS226
D12	8-719-921-11	s	DIODE WZ2ALL
D13	8-719-800-76	s	DIODE 1SS226
D14	8-719-949-35	s	DIODE FC53M-6
D15	8-719-800-76	s	DIODE 1SS226
D16	8-719-800-76	s	DIODE 1SS226
D17	8-719-921-11	s	DIODE WZ2ALL
D18	8-719-800-76	s	DIODE 1SS226
D19	8-719-949-35	s	DIODE FC53M-6
D20	8-719-800-76	s	DIODE 1SS226

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(AT-55B BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
D21	8-719-800-76	s	DIODE 1SS226
D22	8-719-921-11	s	DIODE HZ2ALL
D23	8-719-104-34	s	DIODE 1S2835
D24	8-719-104-31	s	DIODE 1S2838
D25	8-719-101-50	s	DIODE RD5.1E-L2
D26	8-719-104-34	s	DIODE 1S2836
D27	8-719-104-31	s	DIODE 1S2838
D28	8-719-101-50	s	DIODE RD5.1E-L2
D29	8-719-800-99	s	DIODE TLG223
D30	8-719-800-99	s	DIODE TLG223
D31	8-719-800-99	s	DIODE TLG223
D32	8-719-800-99	s	DIODE TLG223
D33	8-719-101-47	s	DIODE RD4.7EL2
D34	8-719-101-47	s	DIODE RD4.7EL2
D35	8-719-118-38	s	DIODE 1SZ46A
D36	8-719-101-76	s	DIODE RD10EL2
D37	8-719-101-76	s	DIODE RD10EL2
D38	8-719-921-11	s	DIODE HZ2ALL
D39	8-719-104-34	s	DIODE 1S2835
D40	8-719-921-11	s	DIODE HZ2ALL
D41	8-719-800-76	s	DIODE 1SS226
D42	8-719-101-47	s	DIODE RD4.7EL2
D43	8-719-101-47	s	DIODE RD4.7EL2
D44	8-719-921-12	s	DIODE HZ2BLL
D45	8-719-921-11	s	DIODE HZ2ALL
D46	8-719-911-19	s	DIODE 1SS119
D47	8-719-104-34	s	DIODE 1S2835
D50	8-719-101-47	s	DIODE RD4.7EL2
D51	8-719-118-38	s	DIODE 1SZ46A
D52	8-719-101-47	s	DIODE RD4.7EL2
D53	8-719-800-76	s	DIODE 1SS226
D54	8-719-800-76	s	DIODE 1SS226
D55	8-719-800-76	s	DIODE 1SS226
D56	8-719-800-76	s	DIODE 1SS226
D57	8-719-800-76	s	DIODE 1SS226
D58	8-719-800-76	s	DIODE 1SS226
D59	8-719-800-76	s	DIODE 1SS226
D60	8-719-104-34	s	DIODE 1S2836
D61	8-719-907-19	s	DIODE FC52W-5
D62	8-719-104-34	s	DIODE 1S2836
D63	8-719-104-34	s	DIODE 1S2836
D64	8-719-104-31	s	DIODE 1S2838
F1	⚠1-532-740-11	s	FUSE, GLASS TUBE 1A 125V
F2	⚠1-532-740-11	s	FUSE, GLASS TUBE 1A 125V
F3	⚠1-532-740-11	s	FUSE, GLASS TUBE 1A 125V
F4	⚠1-532-740-11	s	FUSE, GLASS TUBE 1A 125V
FB2	1-535-178-00	s	RES, FERRITE
FB3	1-535-178-00	s	RES, FERRITE
FB5	1-535-178-00	s	RES, FERRITE
FL3	1-236-639-11	s	BAND PASS 2.5MHz
FL4	1-236-638-11	s	BAND PASS 2.8MHz
FL5	1-417-189-11	s	SEPARATOR
IC1	8-759-201-36	s	IC TA7303P
IC2	8-759-100-93	s	IC UPC393G2
IC3	8-759-710-52	s	IC NJM567M
IC4	8-759-812-35	s	IC LA1235
IC5	8-759-981-86	s	IC RC4556MA

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Ref. No. or Q'ty	Part No.	SP	Description
IC6	8-759-812-35	s	IC LA1235
IC7	8-759-981-86	s	IC RC4556MA
IC8	8-759-812-35	s	IC LA1235
IC9	8-759-906-53	s	IC TL062CPS
IC10	8-759-812-35	s	IC LA1235
IC11	8-759-906-53	s	IC TL062CPS
IC12	8-759-906-53	s	IC TL062CPS
IC13	8-759-906-53	s	IC TL062CPS
IC14	8-759-208-11	s	IC TC40538BFHB
IC15	8-759-208-11	s	IC TC40538BFHB
IC16	8-759-906-54	s	IC TL064CNS
IC17	8-759-208-11	s	IC TC40538BFHB
IC18	8-759-208-11	s	IC TC40538BFHB
IC19	8-759-208-11	s	IC TC40538BFHB
IC20	8-759-906-53	s	IC TL062CPS
IC21	8-759-208-11	s	IC TC40538BFHB
IC22	8-759-906-54	s	IC TL064CNS
IC23	8-759-906-53	s	IC TL062CPS
IC24	8-759-906-53	s	IC TL062CPS
IC50	8-759-906-53	s	IC TL062CPS
IC51	8-759-982-25	s	IC RC78L09A
IC52	8-759-201-53	s	IC TC40H000F
IC53	8-759-906-54	s	IC TL064CNS
IC54	8-759-906-54	s	IC TL064CNS
IC55	8-759-208-13	s	IC TC4016BFHB
IC56	8-759-208-13	s	IC TC4016BFHB
IC57	8-759-008-95	s	IC MC14028BF
IC58	8-759-906-53	s	IC TL062CPS
IC59	8-759-996-82	s	IC MSM82C55A-2GS
IC61	8-759-906-54	s	IC TL064CNS
IC62	8-759-106-58	s	IC UPD7004C
IC63	8-759-996-82	s	IC MSM82C55A-2GS
IC64	8-759-996-81	s	IC MSM80C154RS
IC65	8-759-204-60	s	IC TC40H139F
IC66	8-759-996-82	s	IC MSM82C55A-2GS
IC68	8-759-204-82	s	IC TC40H244F
IC69	8-759-201-53	s	IC TC40H000F
IC70	8-759-201-53	s	IC TC40H000F
IC71	8-759-926-80	s	IC SN74HC573NS
IC72	8-759-709-97	s	IC Z7C512-25C370AT.1.14
IC73	8-759-204-83	s	IC TC40H245F
IC74	8-759-204-82	s	IC TC40H244F
IC75	8-752-326-23	s	CXK582567M-10L
IC76	8-759-926-80	s	IC SN74HC573NS
IC77	8-759-973-71	s	IC TL7705CPS-B
IC78	8-759-999-62	s	IC MSM80C49-831RS
IC79	8-759-008-83	s	IC MC14014BF
IC80	8-759-204-72	s	IC TC40H164F
IC81	8-759-204-72	s	IC TC40H164F
IC83	8-759-204-71	s	IC TC40H163F
IC84	8-759-999-61	s	IC MSM80C49-830RS
IC85	8-759-207-74	s	IC TC40303BFHB
IC86	8-719-800-74	s	DIODE TLP651-VIDEO
IC87	8-759-008-79	s	IC TC4011BF
IC89	8-759-207-74	s	IC TC40303BFHB
IC90	8-759-201-61	s	IC TC40H004F
IC91	8-759-208-11	s	IC TC40539BFHB
IC92	8-759-008-83	s	IC MC14014BF
IC93	8-759-906-53	s	IC TL062CPS

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(AT-55B BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC94	8-759-201-53	s	IC TC40H000F
IC95	8-759-201-53	s	IC TC40H000F
IC96	8-759-201-61	s	IC TC40H004F
IC97	8-759-038-92	s	IC MC14024BF
IC98	8-759-925-96	s	IC SN74HC85NS
IC99	8-759-204-71	s	IC TC40H163F
IC100	8-759-204-71	s	IC TC40H163F
IC101	8-759-201-53	s	IC TC40H000F
IC102	8-759-939-25	s	IC SN751768P
IC104	8-759-102-82	s	IC UPD82C43G
IC105	8-759-981-86	s	IC RC4556MA
IC106	8-759-718-05	s	IC UPD28C64C-20
IC107	8-759-100-93	s	IC UPC393G2
IC108	8-759-209-69	s	IC TC4S11F
IC109	8-759-209-69	s	IC TC4S11F
IC110	8-759-209-69	s	IC TC4S11F
IC111	8-759-009-05	s	IC MC14051BF
IC112	8-759-009-05	s	IC MC14051BF
IC113	8-759-208-11	s	IC TC4053BFWB
L7	1-410-148-11	s	INDUCTOR 330UH
L10	1-410-148-11	s	INDUCTOR 330UH
L13	1-410-148-11	s	INDUCTOR 330UH
L17	1-410-148-11	s	INDUCTOR 330UH
L35	1-410-948-11	s	INDUCTOR 100uH
L36	1-410-948-11	s	INDUCTOR 100uH
L37	1-410-948-11	s	INDUCTOR 100uH
L38	1-410-948-11	s	INDUCTOR 100uH
L501	1-410-948-11	s	INDUCTOR 100uH
L502	1-410-948-11	s	INDUCTOR 100uH
LV1	1-459-890-11	s	COIL, VARIABLE
LV2	1-459-890-11	s	COIL, VARIABLE
LV3	1-459-886-11	s	COIL, VARIABLE
LV4	1-459-889-11	s	COIL, VARIABLE
LV5	1-459-890-11	s	COIL, VARIABLE
LV6	1-459-892-11	s	COIL, VARIABLE
Q2	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q3	8-729-122-63	s	TRANSISTOR 2SA1226
Q4	8-729-122-63	s	TRANSISTOR 2SA1226
Q5	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q6	8-729-122-63	s	TRANSISTOR 2SA1226
Q7	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q10	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q11	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q12	8-729-122-63	s	TRANSISTOR 2SA1226
Q13	8-729-100-66	s	TRANSISTOR 2SC1623
Q15	8-729-100-66	s	TRANSISTOR 2SC1623
Q16	8-729-216-22	s	TRANSISTOR 2SA1162
Q20	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q21	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q22	8-729-100-66	s	TRANSISTOR 2SC1623
Q23	8-729-100-66	s	TRANSISTOR 2SC1623
Q30	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q31	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q32	8-729-100-66	s	TRANSISTOR 2SC1623
Q33	8-729-100-66	s	TRANSISTOR 2SC1623
Q40	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q41	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q42	8-729-100-66	s	TRANSISTOR 2SC1623

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Ref. No. or Q'ty	Part No.	SP	Description
Q45	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q46	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q47	8-729-100-66	s	TRANSISTOR 2SC1623
Q50	8-729-100-66	s	TRANSISTOR 2SC1623
Q51	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q52	8-729-100-66	s	TRANSISTOR 2SC1623
Q55	8-729-100-66	s	TRANSISTOR 2SC1623
Q56	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q57	8-729-100-66	s	TRANSISTOR 2SC1623
Q60	8-729-100-66	s	TRANSISTOR 2SC1623
Q61	8-729-200-87	s	TRANSISTOR 2SC2714Y
Q62	8-729-100-66	s	TRANSISTOR 2SC1623
Q65	8-729-100-66	s	TRANSISTOR 2SC1623
Q66	8-729-100-66	s	TRANSISTOR 2SC1623
Q67	8-729-122-63	s	TRANSISTOR 2SA1226
Q70	8-729-100-66	s	TRANSISTOR 2SC1623
Q71	8-729-100-66	s	TRANSISTOR 2SC1623
Q72	8-729-100-66	s	TRANSISTOR 2SC1623
Q75	8-729-100-66	s	TRANSISTOR 2SC1623
Q76	8-729-100-66	s	TRANSISTOR 2SC1623
Q80	8-729-113-33	s	TRANSISTOR 2SB733-4
Q81	8-729-140-96	s	TRANSISTOR 2SD774-34
Q82	8-729-113-33	s	TRANSISTOR 2SB733-4
Q83	8-729-140-96	s	TRANSISTOR 2SD774-34
Q84	8-729-178-55	s	TRANSISTOR 2SC2785-E
Q100	8-729-113-33	s	TRANSISTOR 2SB733-4
Q101	8-729-140-96	s	TRANSISTOR 2SD774-34
Q104	8-729-100-66	s	TRANSISTOR 2SC1623
Q105	8-729-216-22	s	TRANSISTOR 2SA1162
Q106	8-729-100-66	s	TRANSISTOR 2SC1623
Q107	8-729-216-22	s	TRANSISTOR 2SA1162
Q109	8-729-100-66	s	TRANSISTOR 2SC1623
Q110	8-729-216-22	s	TRANSISTOR 2SA1162
Q111	8-729-100-66	s	TRANSISTOR 2SC1623
Q112	8-729-109-44	s	TRANSISTOR 2SK94
Q113	8-729-109-44	s	TRANSISTOR 2SK94
Q114	8-729-100-66	s	TRANSISTOR 2SC1623
Q115	8-729-100-66	s	TRANSISTOR 2SC1623
Q116	8-729-216-22	s	TRANSISTOR 2SA1162
R1	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R13	1-216-858-11	s	METAL CHIP 2K 0.50% 1/10W
R20	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R21	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R23	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R24	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R26	1-216-645-11	s	METAL CHIP 470 0.50% 1/10W
R32	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R33	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R34	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R50	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R51	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R53	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R54	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R56	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R63	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R64	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R68	1-216-678-11	s	METAL CHIP 13K 0.50% 1/10W
R70	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R71	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(AT-55B BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R80	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R81	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R83	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R84	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R86	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R87	1-216-685-11	s	METAL CHIP 27K 0.50% 1/10W
R88	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R89	1-216-685-11	s	METAL CHIP 68K 0.50% 1/10W
R90	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R91	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R92	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R93	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R94	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R98	1-216-676-11	s	METAL CHIP 13K 0.50% 1/10W
R100	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R101	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R110	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R111	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R113	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R114	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R116	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R123	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R124	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R130	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R131	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R133	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R134	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R136	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R143	1-216-685-11	s	METAL CHIP 27K 0.50% 1/10W
R144	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R166	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R186	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R206	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R221	1-216-685-11	s	METAL CHIP 68K 0.50% 1/10W
R222	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R254	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R265	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R268	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R269	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R270	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R271	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R272	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R273	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R274	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R275	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R280	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R281	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R282	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R284	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R285	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R286	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R287	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R288	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R289	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R291	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R292	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R293	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R294	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R295	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W

(AT-55B BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R300	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R301	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R302	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R303	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R304	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R305	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R306	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R307	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R308	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R309	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R311	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R312	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R313	1-214-580-00	s	METAL 9.1K 1% 1/8W
R316	1-216-669-11	s	METAL CHIP 100K 0.50% 1/10W
R317	1-216-676-11	s	METAL CHIP 11K 0.50% 1/10W
R318	1-216-676-11	s	METAL CHIP 11K 0.50% 1/10W
R319	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R320	1-214-580-00	s	METAL 9.1K 1% 1/8W
R335	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R348	1-216-695-11	s	METAL CHIP 68K 0.50% 1/10W
R351	1-216-695-11	s	METAL CHIP 68K 0.50% 1/10W
R352	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R353	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R354	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R355	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R357	1-247-804-11	s	CARBON(SMALL) 75 0.50% 1/4W
R390	1-249-437-11	s	CARBON 47K 5% 1/4W
R392	1-249-437-11	s	CARBON 47K 5% 1/4W
R394	1-216-695-11	s	METAL CHIP 68K 0.50% 1/10W
R395	1-216-685-11	s	METAL CHIP 27K 0.50% 1/10W
R396	1-249-441-11	s	CARBON 100K 5% 1/4W
R397	1-249-429-11	s	CARBON 10K 5% 1/4W
R398	1-249-441-11	s	CARBON 100K 5% 1/4W
R400	1-247-887-00	s	CARBON 220K 0.50% 1/4W
R500	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R501	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R502	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R503	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R504	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R505	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R617	1-249-403-11	s	CARBON 68 5% 1/4W
R618	1-249-403-11	s	CARBON 68 5% 1/4W
R681	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R682	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R684	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R685	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R687	1-216-686-11	s	METAL CHIP 30K 0.50% 1/10W
R688	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R689	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R703	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R704	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R705	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R706	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R707	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R708	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R709	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R710	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R711	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
RB1	1-232-509-00	s	COMPOSITION CIRCUIT BLOCK

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(AT-55B BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
RV1	1-228-458-00	s	RES, ADJ, METAL 5K
RV2	1-228-460-00	s	RES, ADJ, METAL 20K
RV3	1-228-460-00	s	RES, ADJ, METAL 20K
RV4	1-228-459-00	s	RES, ADJ, METAL 10K
RV5	1-228-459-00	s	RES, ADJ, METAL 10K
RV6	1-228-459-00	s	RES, ADJ, METAL 10K
RV7	1-228-459-00	s	RES, ADJ, METAL 10K
RV8	1-228-459-00	s	RES, ADJ, METAL 10K
RV9	1-228-459-00	s	RES, ADJ, METAL 10K
RV11	1-228-474-00	s	RES, ADJ, METAL 10K
RV12	1-228-474-00	s	RES, ADJ, METAL 10K
RV13	1-228-474-00	s	RES, ADJ, METAL 10K
RV50	1-228-459-00	s	RES, ADJ, METAL 10K
S1	1-570-857-11	s	SWITCH, SLIDE
S2	1-570-857-11	s	SWITCH, SLIDE
S3	1-570-839-11	s	SWITCH, SLIDE
S4	1-560-690-11	s	PLUG, SHORT 4P
S5	1-570-839-11	s	SWITCH, SLIDE
S6	1-560-690-11	s	PLUG, SHORT 4P
S7	1-570-839-11	s	SWITCH, SLIDE
S50	1-570-857-11	s	SWITCH, SLIDE
S51	1-553-252-00	s	SWITCH, ROTARY
S52	1-553-252-00	s	SWITCH, ROTARY
S53	1-553-252-00	s	SWITCH, ROTARY
S54	1-553-252-00	s	SWITCH, ROTARY
S55	1-570-610-11	s	SWITCH, TOGGLE
S56	1-570-857-11	s	SWITCH, SLIDE
T1	1-426-472-11	s	COIL, FM RECOVER
T2	1-426-473-11	s	COIL, FM RECOVER
T3	1-426-474-11	s	COIL, FM RECOVER
T4	1-426-475-11	s	COIL, FM RECOVER
X1	1-527-941-00	s	VIBRATOR, CRYSTAL 10.944MHz

AU-130 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-088-A	o	MOUNTED CIRCUIT BOARD, AU-130
5pcs	2-125-663-11	o	SPACER, LED
1pc	3-741-705-01	o	BRACKET, FRONT
1pc	7-625-508-01	s	LUG, 3
3pcs	7-682-955-11	s	SCREW +PWH 3X6
C6	1-163-037-11	s	CERAMIC CHIP 0.022uF 10% 25V
C10	1-124-465-00	s	ELECT 0.47uF 20% 50V
C11	1-124-465-00	s	ELECT 0.47uF 20% 50V
C14	1-125-101-11	s	ELECT 100uF 20% 10V
C20	1-161-485-00	s	CERAMIC 0.1uF 50V
CN1	1-506-476-11	o	CONNECTOR, 11P, MALE
CN2	1-506-487-11	o	CONNECTOR, 8P, MALE
CN3	1-506-474-11	o	CONNECTOR, 9P, MALE
CN4	1-506-481-11	o	CONNECTOR, 2P, MALE
D1	8-719-911-19	s	DIODE 1SS119
D3	8-719-900-58	s	DIODE GL-5PG95
D4	8-719-900-58	s	DIODE GL-5PG95
D5	8-719-921-01	s	DIODE EBR5534S
D6	8-719-921-01	s	DIODE EBR5534S
D7	8-719-900-58	s	DIODE GL-5PG95
D8	8-719-918-99	s	DIODE LT-92Z0D
FU1	1-533-191-11	s	HOLDER, FUSE
IC1	8-759-981-58	s	IC RC2043MD
IC2	8-759-981-86	s	IC RC4556MA
IC3	8-759-981-86	s	IC RC4556MA
R17	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R18	1-216-608-11	s	METAL CHIP 16.0.50% 1/10W
R23	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R26	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
RV1	1-230-817-11	s	RES, VAR, CARBON 5K
RV2	1-230-817-11	s	RES, VAR, CARBON 5K
RV3	1-228-463-00	s	RES, ADJ, METAL 200K
RV4	1-228-463-00	s	RES, ADJ, METAL 200K
RV5	1-228-463-00	s	RES, ADJ, METAL 200K
S1	1-570-134-11	s	SWITCH, SLIDE
S2	1-554-356-00	s	SWITCH, TOGGLE
S3	1-554-356-00	s	SWITCH, TOGGLE

CN-341 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-633-056-12	o	PRINTED CIRCUIT BOARD BOARD, CN-341
CN1	1-564-697-21	o	CONNECTOR, RIBBON CABLE 26P
CN4	1-506-471-11	o	CONNECTOR, 6P, MALE
CN5	1-506-472-11	o	CONNECTOR, 7P, MALE
CN6	1-506-641-11	o	CONNECTOR, 24P MALE
CN7	1-506-639-11	o	CONNECTOR, 20P MALE

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

CN-342 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-633-054-11	o	PRINTED CIRCUIT BOARD, CN-342
2pcs	3-654-545-00	s	SPACER, BNC
1pc	3-740-894-01	o	PLATE (IN), BNC
CN1	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN2	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN3	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN4	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN5	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN6	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN7	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN8	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN9	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN10	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN11	1-506-475-11	o	CONNECTOR, 10P, MALE

CN-343 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-633-055-11	o	PRINTED CIRCUIT BOARD, CN-343
6pcs	3-654-545-00	s	SPACER, BNC
1pc	3-740-895-01	o	PLATE (OUT), BNC
CN1	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN2	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN3	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN4	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN5	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN6	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN7	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN8	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN9	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN10	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN11	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN12	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN13	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN14	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN15	1-561-336-00	s	CONNECTOR, COAXIAL, MALE
CN16	1-506-479-11	o	CONNECTOR, 14P, MALE
CN17	1-506-477-11	o	CONNECTOR, 12P, MALE
CN18	1-506-469-11	o	CONNECTOR, 4P, MALE
CN19	1-560-494-00	s	CONNECTOR, COAXIAL (BNC RF), MALE
CN20	1-560-494-00	s	CONNECTOR, COAXIAL (BNC RF), MALE

CN-344 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-633-057-11	o	PRINTED CIRCUIT BOARD, CN-344
1pc	3-740-893-01	o	PANEL, CONNECTOR, 16P
6pcs	7-628-254-30	s	SCREW +PS 2.5X10
CN1	1-564-699-21	o	CONNECTOR, RIBBON CABLE 34P
CN2	1-569-133-11	o	CONNECTOR, MULTI
CN3	1-569-133-11	o	CONNECTOR, MULTI
CN4	1-569-133-11	o	CONNECTOR, MULTI
CN5	1-506-637-11	o	CONNECTOR, 16P MALE
CN6	1-506-469-11	o	CONNECTOR, 4P, MALE

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

CN-348 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-632-937-12	o	PRINTED CIRCUIT BOARD, CN-348
1pc	3-740-981-01	o	BRACKET, CN PC BOARD
2pcs	7-682-903-11	s	SCREW +PWH 3X6
C1	1-136-185-00	s	FILM 0.22uF 20% 250V
CN1	1-564-978-11	o	CONNECTOR (LIGHT ANGLE)3P, MALE
CN2	1-554-794-11	o	CONNECTOR, 7P MALE
CN3	1-564-791-11	o	WAFER ASSY 4P
CN4	1-564-979-11	o	CONNECTOR (LIGHT ANGLE)4P, MALE
CN5	1-508-871-00	o	CONNECTOR 5P, MALE
CN6	1-564-978-11	o	CONNECTOR (LIGHT ANGLE)3P, MALE
CN7	1-506-483-21	o	CONNECTOR, 4P, MALE
CN8	1-506-481-11	o	CONNECTOR, 2P, MALE
R1	1-214-937-00	s	METAL 1W 1% 1/2W

CN-370 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-632-938-11	o	PRINTED CIRCUIT BOARD, CN-370
CN1	1-564-216-00	o	CONNECTOR 5P, MALE
CN2	1-554-214-11	o	CONNECTOR 3P
CN3	1-564-214-11	o	CONNECTOR 3P
CN4	1-566-313-11	o	CONNECTOR 7P, MALE
CN5	1-506-348-XX	o	CONNECTOR, MALE 6P

DM-79 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-096-A	o	MOUNTED CIRCUIT BOARD, DM-79
6pcs	1-533-189-11	o	HOLDER, FUSE
1pc	1-562-372-00	s	SOCKET, SHORT ZP
2pcs	2-251-622-00	s	LEVER, PC BOARD
1pc	3-741-762-01	o	PLATE, SHIELD, RET
4pcs	7-622-207-05	s	N 2.6, TYPE 2
2pcs	7-626-317-11	s	PIN, SPRING 2.5X6
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
1pc	7-682-546-04	s	SCREW +B 3X5
5pcs	7-682-903-01	s	SCREW +PWH 3X5
C53	1-163-115-00	s	CERAMIC CHIP 82PF 5% 50V
C57	1-126-151-11	s	ELECT 4.7uF 20% 16V
C58	1-163-139-00	s	CERAMIC CHIP 820PF 5% 50V
C60	1-124-257-00	s	ELECT 2.2uF 20% 50V
C79	1-161-473-00	s	CERAMIC 0.01uF 50V
C80	1-161-473-00	s	CERAMIC 0.01uF 50V
C98	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C101	1-161-888-11	s	CERAMIC 0.01uF 50V
C102	1-161-485-00	s	CERAMIC 0.1uF 50V
C114	1-124-257-00	s	ELECT 2.2uF 20% 50V
C115	1-124-257-00	s	ELECT 2.2uF 20% 50V
C129	1-124-257-00	s	ELECT 2.2uF 20% 50V
C130	1-124-257-00	s	ELECT 2.2uF 20% 50V
C199	1-161-485-00	s	CERAMIC 0.1uF 50V
C213	1-124-257-00	s	ELECT 2.2uF 20% 50V
C214	1-124-257-00	s	ELECT 2.2uF 20% 50V
C244	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C245	1-162-765-11	s	CERAMIC 0.001uF 5% 50V
C246	1-126-151-11	s	ELECT 4.7uF 20% 16V
C247	1-162-765-11	s	CERAMIC 0.001uF 5% 50V
C273	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C274	1-161-888-11	s	CERAMIC 0.01uF 50V
C275	1-126-151-11	s	ELECT 4.7uF 20% 16V
C276	1-161-888-11	s	CERAMIC 0.01uF 50V
C277	1-126-094-11	s	ELECT 4.7uF 20% 16V
C278	1-126-094-11	s	ELECT 4.7uF 20% 16V
C281	1-107-161-00	s	MICA 36PF 5% 500V
C298	1-107-205-00	s	MICA 13PF 5% 500V
C299	1-162-748-11	s	CERAMIC 62PF 5% 50V
C301	1-162-674-11	s	CERAMIC 39PF 5% 50V
C304	1-107-041-00	s	MICA 1.8PF 0.5PF 500V
C320	1-107-046-00	s	MICA 4.7PF 0.5PF 500V
C322	1-107-042-00	s	MICA 2.2PF 0.5PF 500V
C326	1-107-042-00	s	MICA 2.2PF 0.5PF 500V
C333	1-107-044-00	s	MICA 3.3PF 0.5PF 500V
C337	1-124-120-11	s	ELECT 220uF 20% 25V
C338	1-126-233-11	s	ELECT 22uF 20% 35V
C339	1-124-120-11	s	ELECT 220uF 20% 25V
C340	1-124-120-11	s	ELECT 220uF 20% 25V
C342	1-126-176-11	s	ELECT 220uF 20% 10V
C343	1-126-176-11	s	ELECT 220uF 20% 10V
C344	1-126-233-11	s	ELECT 22uF 20% 35V
C360	1-161-485-00	s	CERAMIC 0.1MF 50V
CN1	1-562-729-11	o	CONNECTOR, MULTI 64P, MALE
CN2	1-562-729-11	o	CONNECTOR, MULTI 64P, MALE
CN3	1-569-170-11	o	CONNECTOR, COAXIAL (SMALL TYPE), MALE
CN4	1-569-170-11	o	CONNECTOR, COAXIAL (SMALL TYPE), MALE

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(DM-79 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
CN5	1-569-170-11	o	CONNECTOR,COAXIAL (SMALL TYPE). MALE
CN6	1-561-310-00	s	CONNECTOR, RF
CN7	1-569-170-11	o	CONNECTOR,COAXIAL (SMALL TYPE). MALE
CN8	1-506-471-11	o	CONNECTOR, 6P. MALE
CN9	1-506-470-11	o	CONNECTOR, 5P. MALE
CV1	1-141-298-11	s	CERAMIC TRIMMER 10P
D1	8-719-903-27	s	DIODE 1SS168
D2	8-719-903-27	s	DIODE 1SS168
D3	8-719-903-27	s	DIODE 1SS168
D4	8-719-903-27	s	DIODE 1SS168
D5	8-719-903-27	s	DIODE 1SS168
D6	8-719-903-27	s	DIODE 1SS168
D7	8-719-903-27	s	DIODE 1SS168
D8	8-719-903-27	s	DIODE 1SS168
D9	8-719-903-27	s	DIODE 1SS168
D10	8-719-903-27	s	DIODE 1SS168
D11	8-719-903-27	s	DIODE 1SS168
D12	8-719-903-27	s	DIODE 1SS168
D13	8-719-903-27	s	DIODE 1SS168
D14	8-719-903-27	s	DIODE 1SS168
D15	8-719-903-27	s	DIODE 1SS168
D16	8-719-903-27	s	DIODE 1SS168
D17	8-719-903-27	s	DIODE 1SS168
D18	8-719-104-14	s	DIODE 1SV34
D19	8-719-104-14	s	DIODE 1SV34
D20	8-719-104-14	s	DIODE 1SV34
D21	8-719-104-14	s	DIODE 1SV34
D22	8-719-800-76	s	DIODE 1SS226
D23	8-719-800-76	s	DIODE 1SS226
D24	8-719-101-57	s	DIODE 1SS97-1
D25	8-719-101-97	s	DIODE 1SS97-1
D26	8-719-101-97	s	DIODE 1SS97-1
D27	8-719-104-34	s	DIODE 1S2836
D28	8-719-104-31	s	DIODE 1S2838
D29	8-719-104-31	s	DIODE 1S2838
D30	8-719-903-27	s	DIODE 1SS168
D31	8-719-903-27	s	DIODE 1SS168
D32	8-719-903-27	s	DIODE 1SS168
D33	8-719-903-27	s	DIODE 1SS168
D34	8-719-903-27	s	DIODE 1SS168
D35	8-719-903-27	s	DIODE 1SS168
D36	8-719-903-27	s	DIODE 1SS168
D37	8-719-903-27	s	DIODE 1SS168
D38	8-719-903-27	s	DIODE 1SS168
D39	8-719-903-27	s	DIODE 1SS168
D40	8-719-903-27	s	DIODE 1SS168
D41	8-719-903-27	s	DIODE 1SS168
D42	8-719-903-27	s	DIODE 1SS168
D43	8-719-903-27	s	DIODE 1SS168
D44	8-719-903-27	s	DIODE 1SS168
D47	8-719-104-14	s	DIODE 1SV34
D48	8-719-104-14	s	DIODE 1SV34
D49	8-719-104-14	s	DIODE 1SV34
D50	8-719-104-14	s	DIODE 1SV34
D51	8-719-800-76	s	DIODE 1SS226

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Ref. No. or Q'ty	Part No.	SP	Description
D52	8-719-104-14	s	DIODE 1SV34
D53	8-719-800-76	s	DIODE 1SS226
D54	8-713-300-57	s	DIODE 1T33
D55	8-713-300-57	s	DIODE 1T33
D58	8-719-104-34	s	DIODE 1S2836
D60	8-719-104-34	s	DIODE 1S2836
D62	8-719-104-34	s	DIODE 1S2836
D63	8-719-800-69	s	DIODE TLG223
D64	8-719-800-69	s	DIODE TLG223
D65	8-719-800-69	s	DIODE TLG223
D66	8-719-800-99	s	DIODE TLG223
D67	8-719-101-47	s	DIODE RD4.7EL2
D68	8-719-101-47	s	DIODE RD4.7EL2
D69	8-719-118-38	s	DIODE 1SZ464
D70	8-719-101-50	s	DIODE RD5.1E-L2
D72	8-719-104-34	s	DIODE 1S2836
D73	8-719-800-76	s	DIODE 1SS226
DL1	1-415-709-11	s	DELAY LINE
F1	⚠1-532-740-11	s	FUSE, GLASS TUBE 1A 125V
F2	⚠1-532-740-11	s	FUSE, GLASS TUBE 1A 125V
F3	⚠1-532-740-11	s	FUSE, GLASS TUBE 1A 125V
FL1	1-466-277-11	s	EQUALIZER, PHASE (EQV)
FL2	1-236-276-11	s	L.P.F
FL3	1-235-570-11	s	BAND PASS 18MHz
FL4	1-415-435-11	s	PHASE SHIFT
FL5	1-236-083-11	s	L.P.F
FL7	1-466-278-11	s	EQUALIZER, PHASE (EQC)
FL8	1-236-277-11	s	LOW PASS 4MHz
FL9	1-236-278-11	s	LOW PASS 36MHz
FL10	1-236-277-11	s	LOW PASS 4MHz
FL11	1-426-476-12	s	FILTER, MPX
FL12	1-236-272-11	s	BAND PASS 70MHz
FL13	1-466-286-11	s	EQUALIZER, CABLE (Y-280)
FL14	1-466-286-11	s	EQUALIZER, CABLE (Y-280)
FL15	1-466-286-11	s	EQUALIZER, CABLE (Y-280)
FL16	1-466-286-11	s	EQUALIZER, CABLE (Y-280)
FL17	1-466-286-11	s	EQUALIZER, CABLE (Y-280)
FL18	1-466-285-11	s	EQUALIZER, CABLE (Y-140)
FL19	1-466-288-11	s	EQUALIZER, CABLE (C-280)
FL20	1-466-288-11	s	EQUALIZER, CABLE (C-280)
FL21	1-466-288-11	s	EQUALIZER, CABLE (C-280)
FL22	1-466-288-11	s	EQUALIZER, CABLE (C-280)
FL23	1-466-288-11	s	EQUALIZER, CABLE (C-280)
FL24	1-466-287-11	s	EQUALIZER, CABLE (C-140)
IC1	8-759-987-27	s	IC LM1881M
IC3	8-759-902-99	s	IC CX20183
IC4	8-759-205-21	s	IC TC74HC221F
IC7	8-759-981-51	s	IC RC1496M
IC8	8-759-205-21	s	IC TC74HC221F
IC9	8-759-100-93	s	IC UPC393G2
IC10	8-759-906-53	s	IC TL062CPS
IC11	8-759-981-51	s	IC RC1496M
IC12	8-741-130-40	s	IC BX1304
IC13	8-741-108-20	s	IC BX1082
IC16	8-759-906-53	s	IC TL062CPS
IC17	8-759-906-53	s	IC TL062CPS
IC18	8-759-009-07	s	IC MC14053BF

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
IC19	8-759-100-93	s	IC UPC393G2
IC20	8-759-008-74	s	IC MC14001BF
IC21	8-759-008-41	s	IC MC14520BF
IC22	8-759-008-79	s	IC TC4011BF
IC23	8-759-009-07	s	IC MC14053BF
IC24	8-759-008-74	s	IC MC14001BF
IC25	8-759-008-74	s	IC MC14001BF
IC26	8-759-230-99	s	IC TC74HC4053AF
IC27	8-759-230-99	s	IC TC74HC4053AF
IC28	8-759-906-53	s	IC TL062CPS
IC31	8-759-981-51	s	IC RC1496M
IC32	8-741-108-20	s	IC BX1082
IC33	8-741-130-50	s	IC BX1305
IC35	8-759-906-53	s	IC TL062CPS
IC36	8-759-981-51	s	IC RC1496M
IC37	8-741-108-20	s	IC BX1082
IC38	8-741-130-50	s	IC BX1305
IC39	8-759-100-97	s	IC UPC2339C2
IC40	8-759-906-54	s	IC TL064CNS
IC43	8-759-906-53	s	IC TL062CPS
IC44	8-759-009-07	s	IC MC14053BF
IC46	8-759-906-53	s	IC TL062CPS
IC47	8-759-906-53	s	IC TL062CPS
IC48	8-759-009-05	s	IC MC14051BF
L3	1-410-509-11	s	MICRO 10uH
L5	1-410-509-11	s	MICRO 10uH
L7	1-410-509-11	s	MICRO 10uH
L9	1-410-509-11	s	MICRO 10uH
L10	1-410-509-11	s	MICRO 10uH
L11	1-410-509-11	s	MICRO 10uH
L12	1-410-509-11	s	MICRO 10uH
L19	1-410-509-11	s	MICRO 10uH
L20	1-410-509-11	s	MICRO 10uH
L21	1-410-509-11	s	MICRO 10uH
L31	1-410-509-11	s	MICRO 10uH
L33	1-410-509-11	s	MICRO 10uH
L35	1-410-509-11	s	MICRO 10uH
L37	1-410-509-11	s	MICRO 10uH
L40	1-410-509-11	s	MICRO 10uH
L47	1-410-509-11	s	MICRO 10uH
L48	1-410-509-11	s	MICRO 10uH
L53	1-410-509-11	s	MICRO 10uH
L55	1-410-509-11	s	MICRO 10uH
L56	1-422-595-12	s	COIL, AIR CORE
L57	1-422-594-11	s	COIL, AIR CORE
L64	1-410-948-11	s	INDUCTOR 100uH
L65	1-410-948-11	s	INDUCTOR 100uH
L66	1-410-948-11	s	INDUCTOR 100uH
L68	1-410-509-11	s	MICRO 10uH
LV1	1-410-301-11	s	MICRO 1.0uH
Q1	8-729-216-22	s	TRANSISTOR 2SA1162
Q2	8-729-175-73	s	TRANSISTOR 2SC2757
Q3	8-729-100-66	s	TRANSISTOR 2SC1623
Q4	8-729-216-22	s	TRANSISTOR 2SA1162
Q5	8-729-175-73	s	TRANSISTOR 2SC2757
Q6	8-729-100-66	s	TRANSISTOR 2SC1623
Q7	8-729-216-22	s	TRANSISTOR 2SA1162
Q8	8-729-175-73	s	TRANSISTOR 2SC2757

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Ref. No. or Q'ty	Part No.	SP	Description
Q9	8-729-100-66	s	TRANSISTOR 2SC1623
Q10	8-729-175-73	s	TRANSISTOR 2SC2757
Q11	8-729-175-73	s	TRANSISTOR 2SC2757
Q12	8-729-122-63	s	TRANSISTOR 2SA1226
Q13	8-729-122-63	s	TRANSISTOR 2SA1226
Q14	8-729-122-63	s	TRANSISTOR 2SA1226
Q15	8-729-122-63	s	TRANSISTOR 2SA1226
Q16	8-729-122-63	s	TRANSISTOR 2SA1226
Q17	8-729-216-22	s	TRANSISTOR 2SA1162
Q18	8-729-175-73	s	TRANSISTOR 2SC2757
Q19	8-729-100-66	s	TRANSISTOR 2SC1623
Q20	8-729-216-22	s	TRANSISTOR 2SA1162
Q21	8-729-175-73	s	TRANSISTOR 2SC2757
Q22	8-729-122-63	s	TRANSISTOR 2SA1226
Q23	8-729-122-63	s	TRANSISTOR 2SA1226
Q24	8-729-175-73	s	TRANSISTOR 2SC2757
Q25	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q26	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q27	8-729-175-73	s	TRANSISTOR 2SC2757
Q28	8-729-175-73	s	TRANSISTOR 2SC2757
Q29	8-729-100-66	s	TRANSISTOR 2SC1623
Q30	8-729-175-73	s	TRANSISTOR 2SC2757
Q32	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q33	8-729-100-66	s	TRANSISTOR 2SC1623
Q34	8-729-122-63	s	TRANSISTOR 2SA1226
Q35	8-729-122-63	s	TRANSISTOR 2SA1226
Q36	8-729-100-66	s	TRANSISTOR 2SC1623
Q42	8-729-122-63	s	TRANSISTOR 2SA1226
Q43	8-729-100-66	s	TRANSISTOR 2SC1623
Q44	8-729-175-73	s	TRANSISTOR 2SC2757
Q45	8-729-175-73	s	TRANSISTOR 2SC2757
Q46	8-729-175-73	s	TRANSISTOR 2SC2757
Q47	8-729-175-73	s	TRANSISTOR 2SC2757
Q48	8-729-122-63	s	TRANSISTOR 2SA1226
Q49	8-729-175-73	s	TRANSISTOR 2SC2757
Q51	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q52	8-729-800-43	s	TRANSISTOR 2SK152-3
Q53	8-729-175-73	s	TRANSISTOR 2SC2757
Q54	8-729-175-73	s	TRANSISTOR 2SC2757
Q55	8-729-122-63	s	TRANSISTOR 2SA1226
Q57	8-769-401-67	s	TRANSISTOR 2SK163-1
Q58	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q59	8-729-105-74	s	TRANSISTOR 2SK523-M1
Q60	8-729-112-65	s	TRANSISTOR 2SA1462
Q61	8-729-175-73	s	TRANSISTOR 2SC2757
Q62	8-729-100-66	s	TRANSISTOR 2SC1623
Q63	8-729-122-63	s	TRANSISTOR 2SA1226
Q64	8-729-100-66	s	TRANSISTOR 2SC1623
Q65	8-729-122-63	s	TRANSISTOR 2SA1226
Q66	8-729-175-73	s	TRANSISTOR 2SC2757
Q67	8-729-175-73	s	TRANSISTOR 2SC2757
Q68	8-729-175-73	s	TRANSISTOR 2SC2757
Q69	8-729-175-73	s	TRANSISTOR 2SC2757
Q71	8-729-122-63	s	TRANSISTOR 2SA1226
Q72	8-729-100-66	s	TRANSISTOR 2SC1623
Q73	8-729-100-66	s	TRANSISTOR 2SC1623
Q75	8-729-122-63	s	TRANSISTOR 2SA1226
Q76	8-729-100-66	s	TRANSISTOR 2SC1623
Q77	8-729-100-66	s	TRANSISTOR 2SC1623

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
Q78	8-729-216-22	s	TRANSISTOR 2SA1162
Q79	8-729-216-22	s	TRANSISTOR 2SA1162
Q81	8-729-100-66	s	TRANSISTOR 2SC1623
Q82	8-729-100-66	s	TRANSISTOR 2SC1623
Q83	8-729-175-73	s	TRANSISTOR 2SC2757
Q84	8-729-175-73	s	TRANSISTOR 2SC2757
Q85	8-729-175-73	s	TRANSISTOR 2SC2757
Q86	8-729-100-66	s	TRANSISTOR 2SC1623
Q87	8-729-100-66	s	TRANSISTOR 2SC1623
Q88	8-729-122-63	s	TRANSISTOR 2SA1226
Q89	8-729-113-33	s	TRANSISTOR 2SB733-4
Q90	8-729-140-96	s	TRANSISTOR 2SD774-34
Q91	8-729-113-33	s	TRANSISTOR 2SB733-4
Q92	8-729-216-22	s	TRANSISTOR 2SA1162
Q93	8-729-175-73	s	TRANSISTOR 2SC2757
Q94	8-729-100-66	s	TRANSISTOR 2SC1623
Q95	8-729-175-73	s	TRANSISTOR 2SC2757
Q96	8-729-100-66	s	TRANSISTOR 2SC1623
Q97	8-729-216-22	s	TRANSISTOR 2SA1162
Q98	8-729-175-73	s	TRANSISTOR 2SC2757
Q99	8-729-100-66	s	TRANSISTOR 2SC1623
Q100	8-729-175-73	s	TRANSISTOR 2SC2757
Q101	8-729-100-66	s	TRANSISTOR 2SC1623
Q102	8-729-216-22	s	TRANSISTOR 2SA1162
Q103	8-729-175-73	s	TRANSISTOR 2SC2757
Q104	8-729-100-66	s	TRANSISTOR 2SC1623
Q105	8-729-175-73	s	TRANSISTOR 2SC2757
Q106	8-729-100-66	s	TRANSISTOR 2SC1623
Q107	8-729-216-22	s	TRANSISTOR 2SA1162
Q108	8-729-175-73	s	TRANSISTOR 2SC2757
Q109	8-729-100-66	s	TRANSISTOR 2SC1623
Q110	8-729-216-22	s	TRANSISTOR 2SA1162
Q111	8-729-175-73	s	TRANSISTOR 2SC2757
Q112	8-729-100-66	s	TRANSISTOR 2SC1623
Q113	8-729-175-73	s	TRANSISTOR 2SC2757
Q114	8-729-100-66	s	TRANSISTOR 2SC1623
R1	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R6	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R7	1-216-651-11	s	METAL CHIP 2.7K 0.50% 1/10W
R11	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R18	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R19	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R22	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R29	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R30	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R34	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R41	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W
R42	1-216-654-11	s	METAL CHIP 1.3K 0.50% 1/10W
R45	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R53	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R54	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R58	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R61	1-216-640-11	s	METAL CHIP 360 0.50% 1/10W
R62	1-216-654-11	s	METAL CHIP 910 0.50% 1/10W
R63	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W
R64	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R65	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W
R66	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R68	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R83	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R91	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R99	1-216-694-11	s	METAL CHIP 62K 0.50% 1/10W
R111	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R112	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R113	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R114	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R119	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R120	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R121	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R123	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R135	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R145	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R148	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R149	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R150	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R152	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R156	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R160	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R161	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R162	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R164	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R170	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R178	1-216-690-11	s	METAL CHIP 43K 0.50% 1/10W
R179	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R184	1-249-438-11	s	CARBON 56K 0.50% 1/4W
R185	1-216-678-11	s	METAL CHIP 13K 0.50% 1/10W
R187	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R206	1-216-645-11	s	METAL CHIP 560 0.50% 1/10W
R208	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R212	1-216-653-11	s	METAL CHIP 1.2K 0.50% 1/10W
R213	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R214	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R216	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R217	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R218	1-216-676-11	s	METAL CHIP 11K 0.50% 1/10W
R219	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R220	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
R231	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R236	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R237	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R241	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R248	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R249	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R252	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R259	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R260	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R262	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R264	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R272	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R273	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R276	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R283	1-216-635-11	s	METAL CHIP 240 0.50% 1/10W
R284	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R286	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R288	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R290	1-249-409-11	s	CARBON 220 5% 1/4W
R291	1-216-652-11	s	METAL CHIP 1.1K 0.50% 1/10W

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(DM-79 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R292	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R293	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R294	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R295	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R296	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R298	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R331	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R339	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R342	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R345	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R347	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R349	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R381	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R389	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R392	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R395	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R397	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R399	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R414	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R415	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R436	1-216-653-11	s	METAL CHIP 1.2K 0.50% 1/10W
R437	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R445	1-216-657-11	s	METAL CHIP 2OK 0.50% 1/10W
R455	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R456	1-249-429-11	s	CARBON 10K 5% 1/4W
R458	1-216-678-11	s	METAL CHIP 13K 0.50% 1/10W
R486	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R487	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R496	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R497	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R506	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R507	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R516	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R517	1-216-654-11	s	METAL CHIP 1.3K 0.50% 1/10W
R539	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R540	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R541	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R546	1-216-686-11	s	METAL CHIP 30K 0.50% 1/10W
R550	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R552	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R555	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R557	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R561	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R565	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
RV1	1-228-460-00	s	RES, ADJ, METAL 20K
RV2	1-228-457-00	s	RES, ADJ, METAL 2K
RV3	1-228-456-00	s	RES, ADJ, METAL 1K
RV4	1-228-460-00	s	RES, ADJ, METAL 20K
RV5	1-228-459-00	s	RES, ADJ, METAL 10K
RV6	1-228-457-00	s	RES, ADJ, METAL 2K
RV7	1-228-457-00	s	RES, ADJ, METAL 2K
RV8	1-228-472-00	s	RES, ADJ, METAL 2K
RV9	1-228-455-00	s	RES, ADJ, METAL 500
RV11	1-228-457-00	s	RES, ADJ, METAL 2K
RV12	1-228-460-00	s	RES, ADJ, METAL 20K
RV13	1-228-457-00	s	RES, ADJ, METAL 2K
RV14	1-228-471-00	s	RES, ADJ, METAL 1K
RV15	1-228-458-00	s	RES, ADJ, METAL 5K
RV16	1-228-459-00	s	RES, ADJ, METAL 10K

(DM-79 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
RV17	1-228-457-00	s	RES, ADJ, METAL 2K
RV18	1-228-471-00	s	RES, ADJ, METAL 1K
RV19	1-228-458-00	s	RES, ADJ, METAL 5K
RV20	1-228-456-00	s	RES, ADJ, METAL 1K
RV22	1-228-457-00	s	RES, ADJ, METAL 2K
RV24	1-228-458-00	s	RES, ADJ, METAL 5K
RV25	1-228-458-00	s	RES, ADJ, METAL 5K
S1	1-570-857-11	s	SWITCH, SLIDE
S2	1-554-027-00	s	SWITCH, ROTARY
SP1	1-564-948-21	o	CONNECTOR 3P, MALE
SP2	1-564-948-21	o	CONNECTOR 3P, MALE
X1	1-577-201-11	s	OSCILLATOR, CRYSTAL, 18MHz
X2	1-577-202-11	s	OSCILLATOR, CRYSTAL 36MHz

EX-240 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-097-A	o	MOUNTED CIRCUIT BOARD, EX-240
2pcs	3-740-896-01	o	REINFORCEMENT, EX
12pcs	7-622-207-05	s	N 2.6, TYPE 2
8pcs	7-628-264-20	s	SCREW +PS 2.6X8
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
4pcs	7-682-649-09	s	SCREW +PS 3X10
6pcs	7-682-903-11	s	SCREW +PWH 3X6
CN1	1-563-164-11	o	CONNECTOR, MULTI (L-J) 64P, FEMALE
CN2	1-563-164-11	o	CONNECTOR, MULTI (L-J) 64P, FEMALE
CN3	1-562-768-11	o	CONNECTOR, MULTI 64P, FEMALE
CN4	1-562-768-11	o	CONNECTOR, MULTI 64P, FEMALE
CN5	1-562-729-11	o	CONNECTOR, MULTI 64P, MALE
CN6	1-562-729-11	o	CONNECTOR, MULTI 64P, MALE

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

IO-49 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-632-940-11	o	PRINTED CIRCUIT BOARD, IO-49
C1	1-136-206-11	s	FILM 0.033uF 5% 630V
C2	1-136-202-11	s	FILM 0.33uF 5% 400V
C3	1-136-204-11	s	FILM 0.015uF 5% 630V
C4	1-136-204-11	s	FILM 0.015uF 5% 630V
CN1	1-564-976-11	o	CONNECTOR (LIGHT ANGLE)6P, MALE
CN2	1-508-776-00	o	CONNECTOR, 9P MALE
CN3	1-561-310-00	s	CONNECTOR, RF
L1	1-410-253-11	s	COIL, CHOKE 80uH
L2	1-458-375-00	s	COIL, CHOKE
L3	1-408-142-21	s	22.5MH

MB-271 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-087-A	o	MOUNTED CIRCUIT BOARD, MB-271
18pcs	7-622-207-05	s	N 2.6, TYPE 2
16pcs	7-628-254-20	s	SCREW +PS 2.6X8
CN1	1-562-768-11	o	CONNECTOR, MULTI 64P, FEMALE
CN2	1-562-768-11	o	CONNECTOR, MULTI 64P, FEMALE
CN3	1-562-768-11	o	CONNECTOR, MULTI 64P, FEMALE
CN4	1-562-768-11	o	CONNECTOR, MULTI 64P, FEMALE
CN5	1-562-768-11	o	CONNECTOR, MULTI 64P, FEMALE
CN6	1-562-768-11	o	CONNECTOR, MULTI 64P, FEMALE
CN7	1-562-768-11	o	CONNECTOR, MULTI 64P, FEMALE
CN8	1-562-768-11	o	CONNECTOR, MULTI 64P, FEMALE
CN9	1-564-701-21	o	CONNECTOR, RIBBON CABLE 50P
CN10	1-506-635-11	o	CONNECTOR, 12P MALE
CN11	1-564-699-21	o	CONNECTOR, RIBBON CABLE 34P
CN12	1-506-641-11	o	CONNECTOR, 24P MALE
CN13	1-564-697-21	o	CONNECTOR, RIBBON CABLE 26P
CN14	1-506-644-11	o	CONNECTOR, PS 30P, MALE
CN16	1-561-310-00	s	CONNECTOR, RF
CN17	1-506-468-11	o	CONNECTOR, 4P, MALE

PS-196 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-089-A	o	MOUNTED CIRCUIT BOARD, PS-196
18pcs	1-535-178-00	s	RES, FERRITE
4pcs	1-543-528-11	s	BEAD, AMORPHOUS
2pcs	2-359-909-01	o	TUBE (A), HEAT SINK RUBBER
1pc	3-740-871-01	o	HEAT SINK
1pc	3-740-872-02	o	SHEET, COOL
1pc	3-740-875-01	o	RETAINER
1pc	3-740-892-02	o	SHEET, TR SHIELD
1pc	7-682-250-04	s	SCREW +E 3X12
2pcs	7-682-903-11	s	SCREW +PWH 3X6
C1	⚠1-136-210-00	s	FILM 0.01uF 20% 250V
C2	⚠1-136-210-00	s	FILM 0.01uF 20% 250V
C3	⚠1-161-742-00	s	CERAMIC 0.0022uF 20% 400V
C4	⚠1-161-742-00	s	CERAMIC 0.0022uF 20% 400V
C5	⚠1-161-742-00	s	CERAMIC 0.0022uF 20% 400V
C6	⚠1-161-742-00	s	CERAMIC 0.0022uF 20% 400V
C7	1-125-800-11	s	ELECT 470uF 20% 250V
C8	1-125-600-11	s	ELECT 470uF 20% 250V
C10	1-161-485-00	s	CERAMIC 0.1uF 50V
C11	1-130-704-00	s	FILM 0.001uF 10% 400V
C12	1-124-520-11	s	ELECT 3300uF 20% 10V
C13	1-124-520-11	s	ELECT 3300uF 20% 10V
C14	1-126-365-51	s	ELECT 100uF 20% 100V
C15	1-126-365-51	s	ELECT 100uF 20% 100V
C16	1-126-589-11	s	ELECT 2200uF 20% 16V
C17	1-126-589-11	s	ELECT 2200uF 20% 16V
C18	1-136-208-11	s	FILM 0.068uF 5% 400VW
C19	1-161-039-00	s	CERAMIC 0.001uF 10% 50V
C20	1-161-897-11	s	CERAMIC 0.33uF 50V
C21	1-136-203-11	s	FILM 0.01uF 5% 630V
C22	1-161-485-00	s	CERAMIC 0.1uF 50V
C24	1-126-149-11	s	ELECT 3.3uF 20% 250V
C25	1-126-149-11	s	ELECT 3.3uF 20% 250V
C26	1-161-039-00	s	CERAMIC 0.001uF 10% 50V
C28	1-161-041-00	s	CERAMIC 0.0015uF 10% 25V
C29	1-136-203-11	s	FILM 0.01uF 5% 630V
C31	1-106-343-00	s	MYLAR 0.001uF 5% 200V
C32	1-106-343-00	s	MYLAR 0.001uF 5% 200V
C33	1-161-039-00	s	CERAMIC 0.001uF 10% 50V
C34	1-161-043-00	s	CERAMIC 0.0022uF 10% 50V
CN1	1-564-104-00	o	CONNECTOR, 3P, MALE
CN2	1-561-772-00	o	CONNECTOR 30P
D1	8-719-300-63	s	DIODE LB-156
D2	8-719-000-20	s	THYRISTOR BCR10CM-12L
D3	8-719-921-12	s	DIODE HZ2BLL
D4	8-719-941-74	s	DIODE ERB81-02
D5	8-719-941-74	s	DIODE ERB81-02
D6	8-719-907-25	s	DIODE ERA84-009
D7	8-719-907-25	s	DIODE ERA84-009
D8	8-719-981-00	s	DIODE ERB81-004
D9	8-719-981-00	s	DIODE ERB81-004
D10	8-719-981-00	s	DIODE ERB81-004
D11	8-719-981-00	s	DIODE ERB81-004
D12	8-719-907-25	s	DIODE ERA84-009
D13	8-719-907-25	s	DIODE ERA84-009
D14	8-719-510-06	s	DIODE S1WB60
D15	8-719-900-95	s	DIODE V09G
D16	8-719-102-30	s	DIODE RD33EL2

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(PS-196 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
D17	8-719-911-19	s	DIODE 1SS119
D18	8-719-101-61	s	DIODE RD6.2EL2
D19	8-719-920-89	s	DIODE TLP560J
D20	8-719-000-20	s	THYRISTOR BCR10CM-12L
D21	8-719-102-10	s	DIODE RD22EL2
D22	8-719-815-85	s	DIODE 1S1585
D23	8-719-101-83	s	DIODE RD12EL2
D24	8-719-900-95	s	DIODE V08G
D25	△8-719-801-22	s	DIODE TLP621
D26	8-719-941-74	s	DIODE ERB91-02
D27	8-719-941-74	s	DIODE ERB91-02
D28	8-719-941-74	s	DIODE ERB91-02
D29	8-719-941-74	s	DIODE ERB91-02
D30	8-719-941-74	s	DIODE ERB91-02
D31	8-719-941-74	s	DIODE ERB91-02
F1	△1-532-608-11	s	FUSE, 2A 250V
L1	△1-459-401-00	s	COIL (WITH CORE)
L2	△1-459-401-00	s	COIL (WITH CORE)
L3	1-424-306-11	s	COIL, CHOKE 600UH
L4	1-424-308-11	s	COIL, CHOKE 600UH
L5	1-424-308-11	s	COIL, CHOKE 600UH
L6	1-410-640-11	s	COIL, COTPUT CHOKE 130uH
L7	1-410-640-11	s	COIL, OUTPUT CHOKE 130uH
L8	1-424-308-11	s	COIL, CHOKE 600UH
L9	△1-459-401-00	s	COIL (WITH CORE)
Q1	8-729-178-55	s	TRANSISTOR 2SC2785-E
Q2	8-729-178-55	s	TRANSISTOR 2SC2785-E
Q3	8-729-401-93	s	TRANSISTOR 2SD1350
Q4	8-729-902-41	s	TRANSISTOR 2SC3318
Q5	8-729-902-41	s	TRANSISTOR 2SC3318
Q6	8-729-178-55	s	TRANSISTOR 2SC2785-E
Q7	8-729-178-55	s	TRANSISTOR 2SC2785-E
Q8	8-729-804-30	s	TRANSISTOR 2SC3457
Q9	8-729-401-93	s	TRANSISTOR 2SD1350
R1	1-214-921-00	s	CARBON 220K 5% 1/2W
R2	1-214-921-00	s	CARBON 220K 5% 1/2W
R3	1-249-417-11	s	CARBON 1K 5% 1/4W
R4	1-249-396-11	s	CARBON 33 5% 1/4W
R5	△1-205-657-00	s	WIREWOUND 150 5% 5W F
R6	1-247-903-00	s	CARBON 1M 5% 1/4W
R8	1-247-887-00	s	CARBON 220K 5% 1/4W
R10	1-247-901-11	s	CARBON 820K 5% 1/4W
R11	1-249-437-11	s	CARBON 47K 5% 1/4W
R12	1-247-883-00	s	CARBON 150K 5% 1/4W
R13	1-247-883-00	s	CARBON 150K 5% 1/4W
R14	1-247-899-11	s	CARBON 680K 5% 1/4W
R15	1-247-895-00	s	CARBON 470K 5% 1/4W
R16	1-215-487-11	s	METAL 12K 5% 3W
R17	1-215-864-00	s	METAL 150 5% 1W
R18	1-215-912-11	s	METAL 150 5% 3W
R19	1-249-411-11	s	CARBON 330 5% 1/4W
R20	1-247-893-11	s	CARBON 390K 5% 1/4W
R21	1-247-893-11	s	CARBON 390K 5% 1/4W
R22	1-249-393-11	s	CARBON 10 5% 1/4W
R23	1-249-393-11	s	CARBON 10 5% 1/4W
R24	1-249-405-11	s	CARBON 100 5% 1/4W
R25	1-247-737-11	s	CARBON 68 5% 1/2W
R26	1-214-925-00	s	CARBON 330K 5% 1/2W

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(PS-196 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R27	1-249-437-11	s	CARBON 47K 5% 1/4W
R28	1-247-899-11	s	CARBON 680K 5% 1/4W
R29	1-249-413-11	s	CARBON 470 5% 1/4W
R31	1-249-393-11	s	CARBON 10 5% 1/4W
R33	1-249-441-11	s	CARBON 100K 5% 1/4W
R34	1-249-405-11	s	CARBON 100 5% 1/4W
R35	1-249-405-11	s	CARBON 100 5% 1/4W
R36	1-249-405-11	s	CARBON 100 5% 1/4W
R37	1-249-429-11	s	CARBON 10K 5% 1/4W
R38	1-249-401-11	s	CARBON 47 5% 1/4W
T1	△1-421-490-00	s	LINE FILTER
T2	△1-449-878-11	s	TRANSFORMER, CONVERTER
T3	△1-447-106-00	s	TRANSFORMER, DRIVE
T4	△1-446-912-00	s	TRANSFORMER, CONVERTER (SUB)

PS-197 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-090-A	o	MOUNTED CIRCUIT BOARD, PS-197
1pc	3-740-871-01	o	HEAT SINK
1pc	3-740-875-01	o	RETAINER
1pc	7-682-250-04	s	SCREW +K 3X12
2pcs	7-682-993-11	s	SCREW +PWH 3X6
C1	1-126-096-11	s	ELECT 10uF 20% 35V
C2	1-124-122-11	s	ELECT 100uF 20% 50V
C3	1-126-096-11	s	ELECT 10uF 20% 35V
C4	1-124-122-11	s	ELECT 100uF 20% 50V
C5	1-124-475-11	s	ELECT 1000uF 20% 10V
C6	1-124-473-11	s	ELECT 1000uF 20% 10V
C7	1-124-350-00	s	ELECT 1000uF 20% 16V
C8	1-124-360-00	s	ELECT 1000uF 20% 16V
C9	1-124-473-11	s	ELECT 1000uF 20% 10V
C10	1-124-473-11	s	ELECT 1000uF 20% 10V
C11	1-124-360-00	s	ELECT 1000uF 20% 16V
C15	1-126-101-11	s	ELECT 100uF 20% 10V
C17	1-135-209-11	s	FILM 0.033uF 5% 630V
C18	1-136-207-11	s	FILM 0.047uF 5% 400V
C19	1-136-206-11	s	FILM 0.033uF 5% 630V
C20	1-136-207-11	s	FILM 0.047uF 5% 400V
C21	1-136-209-11	s	FILM 0.1uF 5% 630V
C27	1-124-460-11	s	ELECT 470uF 20% 25V
C30	1-124-442-00	s	ELECT 330uF 20% 6.3V
CN1	1-564-991-11	o	CONNECTOR 30P
CN2	1-564-242-00	o	CONNECTOR 5P, MALE
CN3	1-506-644-11	o	CONNECTOR, FS 30P, MALE
CN4	1-564-243-00	o	CONNECTOR, 6P, MALE
CN5	1-506-473-11	o	CONNECTOR, 8P, MALE
CN6	1-506-469-11	o	CONNECTOR, 4P, MALE
D1	8-719-921-12	s	DIODE HZ28LL
D2	8-719-102-10	s	DIODE RD22EL2
D3	8-719-102-10	s	DIODE RD22EL2
D4	8-719-921-12	s	DIODE HZ28LL
D5	8-719-102-24	s	DIODE RD30EL2
D6	8-719-102-10	s	DIODE RD22EL2
D7	8-719-981-01	s	DIODE ERA81-004
D8	8-719-104-31	s	DIODE 1S2838
D9	8-719-101-76	s	DIODE RD10EL2
D10	8-719-104-31	s	DIODE 1S2838
D11	8-719-820-59	s	DIODE 1S2348M
D12	8-719-104-31	s	DIODE 1S2838
D13	8-719-300-70	s	DIODE RH-1C
D14	8-719-104-31	s	DIODE 1S2838
D15	8-719-104-31	s	DIODE 1S2838
D16	8-719-104-31	s	DIODE 1S2838
D17	8-719-821-50	s	DIODE TLPG24(BV)
D18	8-719-821-50	s	DIODE TLPG24(BV)
D19	8-719-821-50	s	DIODE TLPG24(BV)
D20	8-719-160-37	s	DIODE RD7.5FB2
D21	8-719-160-37	s	DIODE RD7.5FB2
D22	8-719-160-37	s	DIODE RD7.5FB2
D23	8-719-160-37	s	DIODE RD7.5FB2
D24	8-719-104-31	s	DIODE 1S2838
D25	8-719-160-46	s	DIODE RD10FB2
D26	8-719-104-31	s	DIODE 1S2838
D27	8-719-101-83	s	DIODE RD12EL2
D28	8-719-101-64	s	DIODE RD6.8EL2

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(PS-197 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
D29	8-719-948-47	s	DIODE HSM88AS
D30	8-719-981-01	s	DIODE ERA81-004
IC1	8-759-904-94	s	IC TL494CN
L1	1-459-887-11	s	COIL, TROIDAL 300UH
L2	1-410-253-11	s	COIL, CHOKE 80uH
L3	1-410-253-11	s	COIL, CHOKE 80uH
L4	1-459-887-11	s	COIL, TROIDAL 300UH
L5	1-410-253-11	s	COIL, CHOKE 80uH
L6	1-410-253-11	s	COIL, CHOKE 80uH
L7	1-407-492-00	s	INDUCTOR 1MMH
L8	1-407-492-00	s	INDUCTOR 1MMH
L9	1-459-375-00	s	COIL, CHOKE
L10	1-459-375-00	s	COIL, CHOKE
L11	1-459-375-00	s	COIL, CHOKE
L12	1-459-375-00	s	COIL, CHOKE
L13	1-421-329-00	s	COIL, CHOKE 10uH
LY1	1-515-767-11	s	RELAY
LY2	1-515-767-11	s	RELAY
Q1	8-729-216-22	s	TRANSISTOR 2SA1162
Q2	8-729-105-08	s	TRANSISTOR 2SA1330-06
Q3	8-729-202-92	s	TRANSISTOR 2SD1407-Q
Q4	8-729-216-22	s	TRANSISTOR 2SA1162
Q5	8-729-105-08	s	TRANSISTOR 2SA1330-06
Q6	8-729-202-92	s	TRANSISTOR 2SD1407-Q
Q7	8-729-100-66	s	TRANSISTOR 2SC1623
Q8	8-729-100-66	s	TRANSISTOR 2SC1623
Q9	8-729-216-22	s	TRANSISTOR 2SA1162
Q10	8-729-216-22	s	TRANSISTOR 2SA1162
Q11	8-729-216-22	s	TRANSISTOR 2SA1162
Q12	8-729-216-22	s	TRANSISTOR 2SA1162
Q13	8-729-216-22	s	TRANSISTOR 2SA1162
Q14	8-729-216-22	s	TRANSISTOR 2SA1162
Q15	8-729-216-22	s	TRANSISTOR 2SA1162
Q16	8-729-100-66	s	TRANSISTOR 2SC1623
Q17	8-729-100-66	s	TRANSISTOR 2SC1623
Q18	8-729-216-22	s	TRANSISTOR 2SA1162
Q19	8-729-216-22	s	TRANSISTOR 2SA1162
Q20	8-729-100-66	s	TRANSISTOR 2SC1623
Q21	8-729-100-66	s	TRANSISTOR 2SC1623
Q22	8-729-105-37	s	TRANSISTOR 2SC3360
Q23	8-729-105-37	s	TRANSISTOR 2SC3360
Q24	8-729-105-37	s	TRANSISTOR 2SC3360
Q25	8-729-105-08	s	TRANSISTOR 2SA1330-06
Q26	8-729-105-08	s	TRANSISTOR 2SA1330-06
Q27	8-729-100-66	s	TRANSISTOR 2SC1623
Q28	8-729-100-66	s	TRANSISTOR 2SC1623
Q29	8-729-100-66	s	TRANSISTOR 2SC1623
R1	1-216-347-11	s	METAL 0.68 5% 1W
R5	1-216-347-11	s	METAL 0.68 5% 1W
R59	1-215-880-00	s	METAL 10 5% 2W
R61	1-249-410-11	s	CARBON 270 5% 1/4W
R66	⚠1-207-612-00	s	WIREWOUND 0.1 10% 3W
R81	⚠1-207-612-00	s	WIREWOUND 0.1 10% 3W
RV1	1-228-458-00	s	RES, ADJ, METAL 5K

TM-25 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-633-061-11	o	PRINTED CIRCUIT BOARD, TM-25
CN1	1-506-483-21	o	CONNECTOR, 4P, MALE
CP1	1-548-152-11	o	HOUR METER, DIGITAL

VA-87P BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-095-A	o	MOUNTED CIRCUIT BOARD, VA-87P
4pcs	1-533-189-11	o	HOLDER, FUSE
3pcs	1-562-372-00	s	SOCKET, SHORT 2P
2pcs	2-251-522-00	s	LEVER, PC BOARD
4pcs	7-622-207-05	s	N 2.6, TYPE 2
2pcs	7-626-317-11	s	PIN, SPRING 2.5X6
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
9pcs	7-682-903-01	s	SCREW +PWH 3X5
C3	1-124-499-11	s	ELECT 1uF 20% 50V
C4	1-107-040-00	s	MICA 1.5PF 0.5PF 500V
C7	1-163-086-00	s	CERAMIC CHIP 3PF 0.25PF 50V
C15	1-124-499-11	s	ELECT 1uF 20% 50V
C24	1-163-086-00	s	CERAMIC CHIP 3PF 0.25PF 50V
C32	1-124-499-11	s	ELECT 1uF 20% 50V
C41	1-163-086-00	s	CERAMIC CHIP 3PF 0.25PF 50V
C74	1-163-086-00	s	CERAMIC CHIP 3PF 0.25PF 50V
C78	1-162-806-11	s	CERAMIC 0.1uF 10% 50V
C96	1-162-806-11	s	CERAMIC 0.1uF 10% 50V
C114	1-162-806-11	s	CERAMIC 0.1uF 10% 50V
C183	1-126-101-11	s	ELECT 100uF 20% 10V
C203	1-163-115-00	s	CERAMIC CHIP 82PF 5% 50V
C207	1-163-082-00	s	CERAMIC CHIP 0.5PF 0.25PF 50V
C208	1-131-385-00	s	CAP, TANTALUM 22 10% 6.3V
C213	1-163-082-00	s	CERAMIC CHIP 0.5PF 0.25PF 50V
C220	1-107-208-00	s	MICA 18PF 5% 500V
C224	1-107-208-00	s	MICA 18PF 5% 500V
C230	1-124-472-11	s	ELECT 470uF 20% 10V
C231	1-124-472-11	s	ELECT 470uF 20% 10V
C233	1-126-103-11	s	ELECT 470uF 20% 16V
C234	1-126-103-11	s	ELECT 470uF 20% 16V
C235	1-124-471-00	s	ELECT 1000uF 20% 6.3V
C236	1-124-471-00	s	ELECT 1000uF 20% 6.3V
C237	1-162-673-11	s	CERAMIC 33PF 5% 50V
C238	1-162-716-11	s	CERAMIC 180PF 1% 50V
C239	1-162-673-11	s	CERAMIC 33PF 5% 50V
C240	1-162-716-11	s	CERAMIC 180PF 1% 50V
C243	1-163-115-00	s	CERAMIC CHIP 82PF 5% 50V
C305	1-163-037-11	s	CERAMIC CHIP 0.022uF 10% 25V
C308	1-107-202-00	s	MICA 10PF 5% 500V
C311	1-163-115-00	s	CERAMIC CHIP 82PF 5% 50V
C313	1-126-096-11	s	ELECT 10uF 20% 35V
C316	1-107-077-00	s	MICA 47PF 5% 50V
C317	1-126-175-11	s	ELECT 220uF 20% 10V
C318	1-126-176-11	s	ELECT 220uF 20% 10V
C322	1-124-442-00	s	ELECT 330uF 20% 6.3V
C323	1-124-442-00	s	ELECT 330uF 20% 6.3V
C341	1-163-135-00	s	CERAMIC CHIP 560PF 5% 50V
C348	1-163-127-00	s	CERAMIC CHIP 270PF 5% 50V
C351	1-124-442-00	s	ELECT 330uF 20% 6.3V
C352	1-124-442-00	s	ELECT 330uF 20% 6.3V
C353	1-163-123-00	s	CERAMIC CHIP 180PF 5% 50V
C354	1-163-127-00	s	CERAMIC CHIP 270PF 5% 50V
C355	1-124-442-00	s	ELECT 330uF 20% 6.3V
C363	1-124-442-00	s	ELECT 330uF 20% 6.3V
C365	1-163-241-11	s	CERAMIC CHIP 39PF 5% 50V
C370	1-124-442-00	s	ELECT 330uF 20% 6.3V
C371	1-124-442-00	s	ELECT 330uF 20% 6.3V
C375	1-162-728-11	s	CERAMIC 560PF 5% 50V

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VA-87P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C378	1-124-442-00	s	ELECT 330uF 20% 6.3V
C384	1-124-239-00	s	ELECT 6.8uF 20% 16V
C388	1-124-239-00	s	ELECT 6.8uF 20% 16V
C398	1-102-959-00	s	CERAMIC 22PF 50% 50V
C400	1-161-051-00	s	CERAMIC 0.01uF 10% 25V
C401	1-161-051-00	s	CERAMIC 0.01uF 10% 25V
C402	1-161-051-00	s	CERAMIC 0.01uF 10% 25V
C404	1-163-082-00	s	CERAMIC CHIP 0.5PF 0.25PF 50V
CN1	1-562-729-11	o	CONNECTOR, MULTI 64P, MALE
CN2	1-562-729-11	o	CONNECTOR, MULTI 64P, MALE
CN3	1-564-871-11	o	CONNECTOR, PC-SF 18P
CP1	1-567-654-11	s	VCO, CRYSTAL 17.734475MHz
CP2	1-567-086-00	s	OSCILLATOR, CRYSTAL
CV1	1-141-299-11	s	CERAMIC TRIMMER 6P
CV2	1-141-299-11	s	CERAMIC TRIMMER 6P
CV3	1-141-299-11	s	CERAMIC TRIMMER 6P
D1	8-719-104-31	s	DIODE 1S2838
D2	8-719-104-31	s	DIODE 1S2838
D3	8-719-104-31	s	DIODE 1S2838
D4	8-719-104-31	s	DIODE 1S2838
D5	8-719-104-31	s	DIODE 1S2838
D6	8-719-104-31	s	DIODE 1S2838
D8	8-719-104-31	s	DIODE 1S2838
D9	8-719-104-31	s	DIODE 1S2838
D22	8-719-800-99	s	DIODE TLG223
D23	8-719-800-99	s	DIODE TLG223
D24	8-719-800-99	s	DIODE TLG223
D25	8-719-800-99	s	DIODE TLG223
D26	8-719-101-47	s	DIODE RD4.7EL2
D27	8-719-101-47	s	DIODE RD4.7EL2
D28	8-719-118-38	s	DIODE 1SZ46A
D51	8-719-104-34	s	DIODE 1S2836
D52	8-719-101-39	s	DIODE RD3.6EL1
D53	8-719-104-34	s	DIODE 1S2836
D54	8-719-109-67	s	DIODE RD6.8ES-B2
D55	8-719-109-97	s	DIODE RD8.8ES-B2
D56	8-719-104-34	s	DIODE 1S2836
D57	8-719-104-34	s	DIODE 1S2836
D59	8-719-800-99	s	DIODE TLG223
D60	8-719-104-34	s	DIODE 1S2836
D61	8-719-800-76	s	DIODE 1SS226
DL1	1-415-711-11	s	DELAY LINE, Y (PAL)
F1	⚠1-532-740-11	s	FUSE, GLASS TUBE 1A 125V
F2	⚠1-532-740-11	s	FUSE, GLASS TUBE 1A 125V
FL1	1-236-624-11	s	LOW PASS (U/V)
FL2	1-236-624-11	s	LOW PASS (U/V)
FL3	1-235-181-00	s	BAND PASS 4.43MHz
FL4	1-235-572-11	s	LOW PASS 4.43MHz
IC1	8-759-031-84	s	IC SC7S04F
IC2	8-759-981-51	s	IC RC1486M
IC3	8-759-981-51	s	IC RC1486M
IC4	8-759-911-77	s	IC CX7968A
IC5	8-759-952-25	s	IC RC78L09A
IC6	8-759-906-59	s	IC CX22017
IC7	8-759-906-53	s	IC TL062CPS
IC8	8-759-906-53	s	IC TL062CPS

(VA-87P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC9	8-759-906-53	s	IC TL062CPS
IC10	8-759-906-53	s	IC TL062CPS
IC11	8-759-008-86	s	IC MC14017BF
IC12	8-759-735-99	s	IC UPD27C512G-20-C370VAP
IC13	8-759-926-27	s	IC MC74HC173F
IC14	8-759-926-27	s	IC MC74HC173F
IC15	8-759-209-57	s	IC TC4S59F
IC16	8-759-009-05	s	IC MC14051BF
IC17	8-759-009-05	s	IC MC14051BF
IC18	8-759-981-99	s	IC RC4560M
IC19	8-759-906-53	s	IC TL062CPS
IC22	8-759-905-99	s	IC TL062ACP
IC51	8-759-101-17	s	IC UPC311G2
IC52	8-759-030-16	s	IC MC34182M
IC53	8-759-908-39	s	IC CX7998
IC55	8-759-708-05	s	IC NJM78L05A
IC56	8-759-907-81	s	IC SN74LS221NS
IC57	8-759-030-16	s	IC MC34182M
IC58	8-759-201-61	s	IC TC4OH004F
IC59	8-759-201-53	s	IC TC4OH000F
IC60	8-759-205-21	s	IC TC74HC221F
IC61	8-759-205-21	s	IC TC74HC221F
IC62	8-759-201-61	s	IC TC4OH004F
IC63	8-759-908-39	s	IC CX7998
IC64	8-759-926-19	s	IC SN74HC158NS
IC65	8-757-930-11	s	IC CX7930A
IC66	8-759-205-21	s	IC TC74HC221F
IC67	8-759-907-21	s	IC CX7969
IC68	8-759-201-61	s	IC TC4OH004F
IC69	8-759-205-21	s	IC TC74HC221F
IC70	8-759-009-46	s	IC MC14528BF
IC71	8-759-201-53	s	IC TC4OH000F
IC72	8-759-009-07	s	IC MC14053BF
IC73	8-759-009-07	s	IC MC14053BF
IC74	8-759-926-29	s	IC SN74HC175NS
IC75	8-759-926-17	s	IC SN74HC153NS
IC76	8-759-902-88	s	IC SN74LS123NS
IC77	8-759-906-54	s	IC TL064CNS
IC78	8-759-205-21	s	IC TC74HC221F
IC80	8-759-970-58	s	IC TLC272CPS
IC82	8-759-201-53	s	IC TC4OH000F
IC83	8-759-231-32	s	IC TC7S00F
L45	1-410-948-11	s	INDUCTOR 100uH
L46	1-410-948-11	s	INDUCTOR 100uH
LV1	1-408-844-00	s	22uH
LV2	1-408-845-00	s	100uH
LV3	1-408-845-00	s	100uH
Q1	8-729-216-22	s	TRANSISTOR 2SA1162
Q2	8-729-216-22	s	TRANSISTOR 2SA1162
Q3	8-729-100-65	s	TRANSISTOR 2SC1623
Q4	8-729-100-65	s	TRANSISTOR 2SC1623
Q5	8-729-216-22	s	TRANSISTOR 2SA1162
Q6	8-729-100-65	s	TRANSISTOR 2SC1623
Q7	8-729-100-65	s	TRANSISTOR 2SC1623
Q8	8-729-100-65	s	TRANSISTOR 2SC1623
Q9	8-729-100-65	s	TRANSISTOR 2SC1623
Q10	8-729-216-22	s	TRANSISTOR 2SA1162

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VA-87P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q11	8-729-101-25	s	TRANSISTOR 2SC1009A
Q12	8-729-216-22	s	TRANSISTOR 2SA1162
Q13	8-729-216-22	s	TRANSISTOR 2SA1162
Q14	8-729-100-66	s	TRANSISTOR 2SC1623
Q15	8-729-216-22	s	TRANSISTOR 2SA1162
Q16	8-729-216-22	s	TRANSISTOR 2SA1162
Q17	8-729-100-66	s	TRANSISTOR 2SC1623
Q18	8-729-216-22	s	TRANSISTOR 2SA1162
Q19	8-729-100-66	s	TRANSISTOR 2SC1623
Q20	8-729-100-66	s	TRANSISTOR 2SC1623
Q21	8-729-100-66	s	TRANSISTOR 2SC1623
Q22	8-729-216-22	s	TRANSISTOR 2SA1162
Q23	8-729-100-66	s	TRANSISTOR 2SC1623
Q25	8-729-100-66	s	TRANSISTOR 2SC1623
Q26	8-729-216-22	s	TRANSISTOR 2SA1162
Q27	8-729-100-66	s	TRANSISTOR 2SC1623
Q28	8-729-216-22	s	TRANSISTOR 2SA1162
Q29	8-729-216-22	s	TRANSISTOR 2SA1162
Q30	8-729-100-66	s	TRANSISTOR 2SC1623
Q31	8-729-216-22	s	TRANSISTOR 2SA1162
Q32	8-729-216-22	s	TRANSISTOR 2SA1162
Q33	8-729-216-22	s	TRANSISTOR 2SA1162
Q34	8-729-100-66	s	TRANSISTOR 2SC1623
Q35	8-729-100-66	s	TRANSISTOR 2SC1623
Q36	8-729-216-22	s	TRANSISTOR 2SA1162
Q37	8-729-101-25	s	TRANSISTOR 2SC1009A
Q38	8-729-402-19	s	TRANSISTOR XN6501
Q39	8-729-100-66	s	TRANSISTOR 2SC1623
Q40	8-729-100-66	s	TRANSISTOR 2SC1623
Q41	8-729-100-66	s	TRANSISTOR 2SC1623
Q42	8-729-216-22	s	TRANSISTOR 2SA1162
Q43	8-729-100-66	s	TRANSISTOR 2SC1623
Q44	8-729-100-66	s	TRANSISTOR 2SC1623
Q45	8-729-216-22	s	TRANSISTOR 2SA1162
Q46	8-729-216-22	s	TRANSISTOR 2SA1162
Q47	8-729-100-66	s	TRANSISTOR 2SC1623
Q48	8-729-100-66	s	TRANSISTOR 2SC1623
Q49	8-729-216-22	s	TRANSISTOR 2SA1162
Q50	8-729-216-22	s	TRANSISTOR 2SA1162
Q51	8-729-100-66	s	TRANSISTOR 2SC1623
Q53	8-729-100-66	s	TRANSISTOR 2SC1623
Q54	8-729-216-22	s	TRANSISTOR 2SA1162
Q55	8-729-100-66	s	TRANSISTOR 2SC1623
Q56	8-729-216-22	s	TRANSISTOR 2SA1162
Q57	8-729-216-22	s	TRANSISTOR 2SA1162
Q58	8-729-100-66	s	TRANSISTOR 2SC1623
Q59	8-729-216-22	s	TRANSISTOR 2SA1162
Q60	8-729-216-22	s	TRANSISTOR 2SA1162
Q61	8-729-216-22	s	TRANSISTOR 2SA1162
Q62	8-729-100-66	s	TRANSISTOR 2SC1623
Q63	8-729-100-66	s	TRANSISTOR 2SC1623
Q64	8-729-216-22	s	TRANSISTOR 2SA1162
Q65	8-729-101-25	s	TRANSISTOR 2SC1009A
Q66	8-729-402-19	s	TRANSISTOR XN6501
Q67	8-769-401-67	s	TRANSISTOR 3SK163-1
Q68	8-769-401-67	s	TRANSISTOR 3SK163-1
Q69	8-769-401-67	s	TRANSISTOR 3SK163-1
Q70	8-769-401-67	s	TRANSISTOR 3SK163-1
Q71	8-729-100-66	s	TRANSISTOR 2SC1623

(VA-87P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q72	8-729-216-22	s	TRANSISTOR 2SA1162
Q73	8-729-100-66	s	TRANSISTOR 2SC1623
Q74	8-729-100-66	s	TRANSISTOR 2SC1623
Q75	8-729-216-22	s	TRANSISTOR 2SA1162
Q76	8-729-216-22	s	TRANSISTOR 2SA1162
Q77	8-729-100-66	s	TRANSISTOR 2SC1623
Q79	8-729-100-66	s	TRANSISTOR 2SC1623
Q80	8-729-216-22	s	TRANSISTOR 2SA1162
Q81	8-729-100-66	s	TRANSISTOR 2SC1623
Q82	8-729-216-22	s	TRANSISTOR 2SA1162
Q83	8-729-216-22	s	TRANSISTOR 2SA1162
Q84	8-729-100-66	s	TRANSISTOR 2SC1623
Q85	8-729-216-22	s	TRANSISTOR 2SA1162
Q86	8-729-216-22	s	TRANSISTOR 2SA1162
Q87	8-729-100-66	s	TRANSISTOR 2SC1623
Q88	8-729-216-22	s	TRANSISTOR 2SA1162
Q89	8-729-100-66	s	TRANSISTOR 2SC1623
Q90	8-729-216-22	s	TRANSISTOR 2SA1162
Q91	8-729-100-66	s	TRANSISTOR 2SC1623
Q92	8-729-100-66	s	TRANSISTOR 2SC1623
Q93	8-729-216-22	s	TRANSISTOR 2SA1162
Q94	8-729-600-22	s	TRANSISTOR 2SA1235-F
Q95	8-729-100-66	s	TRANSISTOR 2SC1623
Q96	8-729-100-66	s	TRANSISTOR 2SC1623
Q97	8-729-100-66	s	TRANSISTOR 2SC1623
Q98	8-729-216-22	s	TRANSISTOR 2SA1162
Q99	8-729-216-22	s	TRANSISTOR 2SA1162
Q100	8-729-100-66	s	TRANSISTOR 2SC1623
Q101	8-729-100-66	s	TRANSISTOR 2SC1623
Q102	8-729-100-66	s	TRANSISTOR 2SC1623
Q103	8-729-216-22	s	TRANSISTOR 2SA1162
Q104	8-729-600-22	s	TRANSISTOR 2SA1235-F
Q105	8-729-216-22	s	TRANSISTOR 2SA1162
Q106	8-729-600-22	s	TRANSISTOR 2SA1235-F
Q110	8-729-175-73	s	TRANSISTOR 2SC2757
Q111	8-729-100-66	s	TRANSISTOR 2SC1623
Q112	8-729-175-73	s	TRANSISTOR 2SC2757
Q113	8-729-216-22	s	TRANSISTOR 2SA1162
Q114	8-729-216-22	s	TRANSISTOR 2SA1162
Q115	8-729-421-71	s	TRANSISTOR 2SK620
Q116	8-729-100-66	s	TRANSISTOR 2SC1623
Q118	8-729-100-66	s	TRANSISTOR 2SC1623
Q119	8-729-216-22	s	TRANSISTOR 2SA1162
Q120	8-729-100-66	s	TRANSISTOR 2SC1623
Q121	8-729-216-22	s	TRANSISTOR 2SA1162
Q122	8-729-216-22	s	TRANSISTOR 2SA1162
Q123	8-729-100-66	s	TRANSISTOR 2SC1623
Q124	8-729-216-22	s	TRANSISTOR 2SA1162
Q125	8-729-175-73	s	TRANSISTOR 2SC2757
Q126	8-729-175-73	s	TRANSISTOR 2SC2757
Q127	8-729-100-66	s	TRANSISTOR 2SC1623
Q128	8-729-216-22	s	TRANSISTOR 2SA1162
Q129	8-729-216-22	s	TRANSISTOR 2SA1162
Q130	8-729-421-71	s	TRANSISTOR 2SK620
Q131	8-729-100-66	s	TRANSISTOR 2SC1623
Q133	8-729-100-66	s	TRANSISTOR 2SC1623
Q134	8-729-216-22	s	TRANSISTOR 2SA1162
Q135	8-729-100-66	s	TRANSISTOR 2SC1623
Q136	8-729-216-22	s	TRANSISTOR 2SA1162

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VA-87P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q137	8-729-216-22	s	TRANSISTOR 2SA1162
Q138	8-729-100-66	s	TRANSISTOR 2SC1623
Q139	8-729-216-22	s	TRANSISTOR 2SA1162
Q140	8-729-175-73	s	TRANSISTOR 2SC2757
Q141	8-729-175-73	s	TRANSISTOR 2SC2757
Q143	8-729-216-22	s	TRANSISTOR 2SA1162
Q144	8-729-216-22	s	TRANSISTOR 2SA1162
Q145	8-729-421-71	s	TRANSISTOR 2SK620
Q146	8-729-100-66	s	TRANSISTOR 2SC1623
Q148	8-729-100-66	s	TRANSISTOR 2SC1623
Q149	8-729-216-22	s	TRANSISTOR 2SA1162
Q150	8-729-100-66	s	TRANSISTOR 2SC1623
Q151	8-729-216-22	s	TRANSISTOR 2SA1162
Q152	8-729-216-22	s	TRANSISTOR 2SA1162
Q153	8-729-100-66	s	TRANSISTOR 2SC1623
Q154	8-729-216-22	s	TRANSISTOR 2SA1162
Q155	8-729-100-66	s	TRANSISTOR 2SC1623
Q156	8-729-216-22	s	TRANSISTOR 2SA1162
Q157	8-729-216-22	s	TRANSISTOR 2SA1162
Q158	8-729-216-22	s	TRANSISTOR 2SA1162
Q159	8-729-216-22	s	TRANSISTOR 2SA1162
Q160	8-729-216-22	s	TRANSISTOR 2SA1162
Q161	8-729-216-22	s	TRANSISTOR 2SA1162
Q162	8-729-216-22	s	TRANSISTOR 2SA1162
Q163	8-729-216-22	s	TRANSISTOR 2SA1162
Q164	8-729-100-66	s	TRANSISTOR 2SC1623
Q165	8-729-100-66	s	TRANSISTOR 2SC1623
Q166	8-729-100-66	s	TRANSISTOR 2SC1623
Q167	8-729-100-66	s	TRANSISTOR 2SC1623
Q168	8-729-100-66	s	TRANSISTOR 2SC1623
Q170	8-729-100-66	s	TRANSISTOR 2SC1623
Q171	8-729-216-22	s	TRANSISTOR 2SA1162
Q172	8-729-100-66	s	TRANSISTOR 2SC1623
Q173	8-729-216-22	s	TRANSISTOR 2SA1162
Q174	8-729-216-22	s	TRANSISTOR 2SA1162
Q175	8-729-100-66	s	TRANSISTOR 2SC1623
Q176	8-729-216-22	s	TRANSISTOR 2SA1162
Q177	8-729-216-22	s	TRANSISTOR 2SA1162
Q178	8-729-216-22	s	TRANSISTOR 2SA1162
Q179	8-729-216-22	s	TRANSISTOR 2SA1162
Q180	8-729-216-22	s	TRANSISTOR 2SA1162
Q181	8-729-216-22	s	TRANSISTOR 2SA1162
Q182	8-729-216-22	s	TRANSISTOR 2SA1162
Q183	8-729-216-22	s	TRANSISTOR 2SA1162
Q184	8-729-216-22	s	TRANSISTOR 2SA1162
Q185	8-729-100-66	s	TRANSISTOR 2SC1623
Q186	8-729-100-66	s	TRANSISTOR 2SC1623
Q187	8-729-100-66	s	TRANSISTOR 2SC1623
Q188	8-729-100-66	s	TRANSISTOR 2SC1623
Q189	8-729-100-66	s	TRANSISTOR 2SC1623
Q191	8-729-100-66	s	TRANSISTOR 2SC1623
Q192	8-729-216-22	s	TRANSISTOR 2SA1162
Q193	8-729-100-66	s	TRANSISTOR 2SC1623
Q194	8-729-216-22	s	TRANSISTOR 2SA1162
Q195	8-729-216-22	s	TRANSISTOR 2SA1162
Q196	8-729-100-66	s	TRANSISTOR 2SC1623
Q197	8-729-216-22	s	TRANSISTOR 2SA1162
Q198	8-729-216-22	s	TRANSISTOR 2SA1162
Q199	8-729-216-22	s	TRANSISTOR 2SA1162

(VA-87P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q200	8-729-216-22	s	TRANSISTOR 2SA1162
Q201	8-729-100-66	s	TRANSISTOR 2SC1623
Q202	8-729-216-22	s	TRANSISTOR 2SA1162
Q203	8-729-216-22	s	TRANSISTOR 2SA1162
Q204	8-729-216-22	s	TRANSISTOR 2SA1162
Q205	8-729-100-66	s	TRANSISTOR 2SC1623
Q206	8-729-100-66	s	TRANSISTOR 2SC1623
Q207	8-729-100-66	s	TRANSISTOR 2SC1623
Q209	8-729-100-66	s	TRANSISTOR 2SC1623
Q210	8-729-216-22	s	TRANSISTOR 2SA1162
Q211	8-729-100-66	s	TRANSISTOR 2SC1623
Q212	8-729-216-22	s	TRANSISTOR 2SA1162
Q213	8-729-216-22	s	TRANSISTOR 2SA1162
Q214	8-729-100-66	s	TRANSISTOR 2SC1623
Q215	8-729-216-22	s	TRANSISTOR 2SA1162
Q216	8-729-100-66	s	TRANSISTOR 2SC1623
Q217	8-729-100-66	s	TRANSISTOR 2SC1623
Q218	8-729-100-66	s	TRANSISTOR 2SC1623
Q219	8-729-100-66	s	TRANSISTOR 2SC1623
Q220	8-729-100-66	s	TRANSISTOR 2SC1623
Q225	8-729-100-66	s	TRANSISTOR 2SC1623
Q226	8-729-100-66	s	TRANSISTOR 2SC1623
Q227	8-729-100-66	s	TRANSISTOR 2SC1623
Q228	8-729-216-22	s	TRANSISTOR 2SA1162
Q229	8-729-100-66	s	TRANSISTOR 2SC1623
Q230	8-729-100-66	s	TRANSISTOR 2SC1623
Q231	8-729-100-66	s	TRANSISTOR 2SC1623
Q232	8-729-100-66	s	TRANSISTOR 2SC1623
Q233	8-729-100-66	s	TRANSISTOR 2SC1623
Q234	8-729-101-25	s	TRANSISTOR 2SC1009A
Q235	8-729-101-25	s	TRANSISTOR 2SC1009A
Q236	8-729-100-66	s	TRANSISTOR 2SC1623
Q237	8-729-216-22	s	TRANSISTOR 2SA1162
Q238	8-729-100-66	s	TRANSISTOR 2SC1623
Q239	8-729-216-22	s	TRANSISTOR 2SA1162
Q240	8-729-202-52	s	TRANSISTOR 2SC2714
Q245	8-729-102-66	s	TRANSISTOR 2SC2757
Q246	8-729-216-22	s	TRANSISTOR 2SA1162
Q247	8-729-100-66	s	TRANSISTOR 2SC1623
Q248	8-729-216-22	s	TRANSISTOR 2SA1162
Q249	8-729-112-49	s	TRANSISTOR 2SA1462
Q250	8-729-100-66	s	TRANSISTOR 2SC1623
Q251	8-729-216-22	s	TRANSISTOR 2SA1162
Q253	8-729-100-66	s	TRANSISTOR 2SC1623
Q254	8-729-216-22	s	TRANSISTOR 2SA1162
Q255	8-729-100-66	s	TRANSISTOR 2SC1623
Q256	8-729-216-22	s	TRANSISTOR 2SA1162
Q257	8-729-216-22	s	TRANSISTOR 2SA1162
Q258	8-729-100-66	s	TRANSISTOR 2SC1623
Q259	8-729-216-22	s	TRANSISTOR 2SA1162
Q260	8-729-100-66	s	TRANSISTOR 2SC1623
Q261	8-729-100-66	s	TRANSISTOR 2SC1623
Q262	8-729-100-66	s	TRANSISTOR 2SC1623
Q263	8-729-216-22	s	TRANSISTOR 2SA1162
Q264	8-729-100-66	s	TRANSISTOR 2SC1623
Q265	8-729-216-22	s	TRANSISTOR 2SA1162
Q268	8-729-100-66	s	TRANSISTOR 2SC1623
Q269	8-729-100-66	s	TRANSISTOR 2SC1623
Q281	8-729-113-33	s	TRANSISTOR 2SB733-4

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VA-87P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q282	8-729-140-96	s	TRANSISTOR 2SD774-34
Q285	8-729-175-73	s	TRANSISTOR 2SC2757
Q286	8-729-216-22	s	TRANSISTOR 2SA812
Q287	8-729-216-22	s	TRANSISTOR 2SA812
Q288	8-729-216-22	s	TRANSISTOR 2SA812
Q351	8-729-100-66	s	TRANSISTOR 2SC1623
Q352	8-729-100-66	s	TRANSISTOR 2SC1623
Q353	8-729-100-66	s	TRANSISTOR 2SC1623
Q354	8-729-100-66	s	TRANSISTOR 2SC1623
Q355	8-729-100-66	s	TRANSISTOR 2SC1623
Q356	8-729-100-66	s	TRANSISTOR 2SC1623
Q357	8-729-100-66	s	TRANSISTOR 2SC1623
Q358	8-729-122-53	s	TRANSISTOR 2SA1226
Q359	8-729-122-53	s	TRANSISTOR 2SA1226
Q360	8-729-100-66	s	TRANSISTOR 2SC1623
Q361	8-729-122-53	s	TRANSISTOR 2SA1226
Q362	8-729-175-73	s	TRANSISTOR 2SC2757
Q363	8-729-175-73	s	TRANSISTOR 2SC2757
Q364	8-729-100-66	s	TRANSISTOR 2SC1623
Q365	8-729-113-33	s	TRANSISTOR 2SB733-4
Q366	8-729-140-96	s	TRANSISTOR 2SD774-34
Q367	8-729-109-44	s	TRANSISTOR 2SK94
Q368	8-729-216-22	s	TRANSISTOR 2SA1162
Q369	8-729-100-66	s	TRANSISTOR 2SC1623
Q370	8-729-216-22	s	TRANSISTOR 2SA1162
Q371	8-729-216-22	s	TRANSISTOR 2SA1162
Q372	8-729-100-66	s	TRANSISTOR 2SC1623
Q373	8-729-216-22	s	TRANSISTOR 2SA1162
Q375	8-729-109-44	s	TRANSISTOR 2SK94
Q376	8-729-100-66	s	TRANSISTOR 2SC1623
Q378	8-729-100-66	s	TRANSISTOR 2SC1623
Q379	8-729-100-66	s	TRANSISTOR 2SC1623
Q380	8-729-216-22	s	TRANSISTOR 2SA1162
Q381	8-729-100-66	s	TRANSISTOR 2SC1623
Q382	8-729-216-22	s	TRANSISTOR 2SA1162
Q383	8-729-100-66	s	TRANSISTOR 2SC1623
Q384	8-729-216-22	s	TRANSISTOR 2SA1162
R13	1-216-042-11	s	METAL CHIP 510 0.50% 1/10W
R15	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R18	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R19	1-216-689-11	s	METAL CHIP 39K 0.50% 1/10W
R33	1-216-653-11	s	METAL CHIP 1.2K 0.50% 1/10W
R34	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R35	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R41	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W
R43	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R45	1-216-631-11	s	METAL CHIP 150 0.50% 1/10W
R55	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R56	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R57	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R59	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R61	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R62	1-216-681-11	s	METAL CHIP 18K 0.50% 1/10W
R63	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R65	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R66	1-216-070-00	s	METAL CHIP 7.5K 5% 1/10W
R72	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R94	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VA-87P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R96	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W
R97	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R98	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R99	1-216-685-11	s	METAL CHIP 27K 0.50% 1/10W
R102	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R103	1-216-679-11	s	METAL CHIP 11K 0.50% 1/10W
R107	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R110	1-216-647-11	s	METAL CHIP 680 0.50% 1/10W
R113	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R114	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R115	1-216-652-11	s	METAL CHIP 1.1K 0.50% 1/10W
R116	1-216-617-11	s	METAL CHIP 39 0.50% 1/10W
R117	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R118	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R119	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R130	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R131	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R132	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R134	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R135	1-216-070-00	s	METAL CHIP 7.5K 5% 1/10W
R141	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R156	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R158	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W
R160	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W
R163	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R164	1-216-685-11	s	METAL CHIP 27K 0.50% 1/10W
R165	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R168	1-216-676-11	s	METAL CHIP 11K 0.50% 1/10W
R172	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R175	1-216-647-11	s	METAL CHIP 680 0.50% 1/10W
R176	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R179	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R180	1-216-652-11	s	METAL CHIP 1.1K 0.50% 1/10W
R181	1-216-617-11	s	METAL CHIP 39 0.50% 1/10W
R182	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R183	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R184	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R195	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R196	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R197	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R199	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R200	1-216-070-00	s	METAL CHIP 7.5K 5% 1/10W
R206	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R209	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R210	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R211	1-216-678-11	s	METAL CHIP 13K 0.50% 1/10W
R212	1-216-678-11	s	METAL CHIP 13K 0.50% 1/10W
R213	1-216-678-11	s	METAL CHIP 13K 0.50% 1/10W
R214	1-216-689-11	s	METAL CHIP 39K 0.50% 1/10W
R215	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R216	1-216-689-11	s	METAL CHIP 39K 0.50% 1/10W
R217	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R218	1-216-689-11	s	METAL CHIP 39K 0.50% 1/10W
R219	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R220	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R223	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R226	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R235	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R237	1-216-665-11	s	METAL CHIP 3.3K 0.50% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R239	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R240	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R241	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R244	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R246	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R247	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R248	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R255	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R256	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R257	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R260	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R263	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R264	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R265	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R276	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R277	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R278	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R280	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R281	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R285	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R286	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R289	1-216-678-00	s	METAL 16K 5% 1/10W
R291	1-216-696-00	s	METAL CHIP 36K 5% 1/10W
R293	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R304	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R305	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R306	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R309	1-216-670-00	s	METAL CHIP 7.5K 5% 1/10W
R314	1-216-686-11	s	METAL CHIP 30K 0.50% 1/10W
R315	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R316	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R317	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R321	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R322	1-216-686-11	s	METAL CHIP 30K 0.50% 1/10W
R325	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R327	1-216-686-00	s	METAL CHIP 36K 5% 1/10W
R329	1-216-698-11	s	METAL CHIP 5.1K 0.50% 1/10W
R339	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R340	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R341	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R344	1-216-670-00	s	METAL CHIP 7.5K 5% 1/10W
R350	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R351	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R352	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R354	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R357	1-216-686-11	s	METAL CHIP 30K 0.50% 1/10W
R360	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R362	1-216-696-00	s	METAL CHIP 36K 5% 1/10W
R364	1-216-698-11	s	METAL CHIP 5.1K 0.50% 1/10W
R375	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R376	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R379	1-216-670-00	s	METAL CHIP 7.5K 5% 1/10W
R385	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R409	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R412	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R413	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R414	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
R415	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R418	1-216-670-00	s	METAL CHIP 7.5K 5% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R424	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R425	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R451	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R452	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
R453	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R456	1-216-670-00	s	METAL CHIP 7.5K 5% 1/10W
R461	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R463	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R465	1-215-869-00	s	METAL 4.3K 5% 1/10W
R467	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R468	1-216-645-11	s	METAL CHIP 560 0.50% 1/10W
R469	1-216-645-11	s	METAL CHIP 560 0.50% 1/10W
R470	1-216-645-11	s	METAL CHIP 560 0.50% 1/10W
R474	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R475	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R476	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R477	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R490	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R491	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R492	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R495	1-216-670-00	s	METAL CHIP 7.5K 5% 1/10W
R501	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R521	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R522	1-215-882-11	s	METAL CHIP 20K 0.50% 1/10W
R525	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R526	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R527	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R537	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R538	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R544	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R545	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R546	1-216-654-11	s	METAL CHIP 1.2K 0.50% 1/10W
R547	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R556	1-216-058-00	s	METAL 2.4K 5% 1/10W
R557	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R559	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R560	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R561	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R562	1-216-653-11	s	METAL CHIP 1.2K 0.50% 1/10W
R565	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R571	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R572	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R578	1-216-664-00	s	METAL 4.3K 5% 1/10W
R582	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R584	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R587	1-216-678-00	s	METAL 16K 5% 1/10W
R589	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R590	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R592	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R593	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R595	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R596	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R601	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R602	1-216-696-11	s	METAL 4.3K 0.50% 1/10W
R603	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R604	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R605	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R607	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R608	1-216-699-11	s	METAL CHIP 1K 0.50% 1/10W

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(VA-87P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R609	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R617	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R618	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R619	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R621	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R623	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R624	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R625	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R626	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R629	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R636	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R640	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R642	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R649	1-216-652-11	s	METAL CHIP 1.1K 0.50% 1/10W
R650	1-216-652-11	s	METAL CHIP 1.1K 0.50% 1/10W
R654	1-216-652-11	s	METAL CHIP 1.1K 0.50% 1/10W
R655	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R664	1-216-674-11	s	METAL CHIP 9.1K 0.50% 1/10W
R665	1-216-674-11	s	METAL CHIP 9.1K 0.50% 1/10W
R690	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R692	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R695	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R698	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R701	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R702	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R704	1-216-656-11	s	METAL CHIP 1.6K 0.50% 1/10W
R705	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R706	1-216-652-11	s	METAL CHIP 1.1K 0.50% 1/10W
R707	1-216-653-11	s	METAL CHIP 1.2K 0.50% 1/10W
R709	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R712	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R727	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R728	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R730	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R734	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R735	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R745	1-214-585-00	s	METAL 15K 1% 1/8W
R765	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R786	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R787	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R788	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R789	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R790	1-216-681-11	s	METAL CHIP 18K 0.50% 1/10W
R791	1-216-681-11	s	METAL CHIP 18K 0.50% 1/10W
R795	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R801	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R808	1-216-654-11	s	METAL CHIP 1.3K 0.50% 1/10W
R810	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R811	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R812	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R814	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R816	1-216-695-11	s	METAL CHIP 5.9K 0.50% 1/10W
R817	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R818	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R819	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R822	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R823	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R827	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R828	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R832	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R834	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R842	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R855	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
R856	1-214-568-00	s	METAL 3K 1% 1/8W
R857	1-214-559-00	s	METAL 1.2K 1% 1/8W
R863	1-249-393-11	s	CARBON 10 5% 1/4W
R864	1-249-385-11	s	CARBON 10 5% 1/4W
R865	1-249-403-11	s	CARBON 68 5% 1/4W
R868	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R869	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R872	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R873	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R884	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R885	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R886	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R887	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R889	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R895	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R897	1-216-684-11	s	METAL CHIP 24K 0.50% 1/10W
R898	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R902	1-216-680-11	s	METAL CHIP 16K 0.50% 1/10W
R905	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R907	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R910	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R912	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R915	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R925	1-216-666-00	s	METAL CHIP 5.1K 5% 1/10W
R926	1-216-666-00	s	METAL CHIP 5.1K 5% 1/10W
R930	1-215-441-00	s	METAL CHIP 6.8K 1% 1/6W
R932	1-214-592-00	s	METAL 30K 1% 1/8W
RB1	1-235-528-12	s	NETWORK
RB2	1-235-526-11	s	NETWORK
RB3	1-235-527-11	s	NETWORK
RB4	1-235-533-11	s	NETWORK
RB5	1-235-531-11	s	NETWORK
RB6	1-235-532-11	s	NETWORK
RV1	1-228-455-00	s	RES, ADJ, METAL 500
RV3	1-228-458-00	s	RES, ADJ, METAL 5K
RV4	1-228-462-00	s	RES, ADJ, METAL 100K
RV5	1-228-455-00	s	RES, ADJ, METAL 500
RV6	1-228-462-00	s	RES, ADJ, METAL 100K
RV7	1-228-455-00	s	RES, ADJ, METAL 500
RV8	1-228-454-00	s	RES, ADJ, METAL 200
RV9	1-228-454-00	s	RES, ADJ, METAL 200
RV10	1-228-455-00	s	RES, ADJ, METAL 500
RV11	1-228-454-00	s	RES, ADJ, METAL 200
RV12	1-228-455-00	s	RES, ADJ, METAL 500
RV13	1-228-455-00	s	RES, ADJ, METAL 500
RV14	1-228-455-00	s	RES, ADJ, METAL 500
RV15	1-228-454-00	s	RES, ADJ, METAL 200
RV16	1-228-462-00	s	RES, ADJ, METAL 100K
RV17	1-228-455-00	s	RES, ADJ, METAL 500
RV18	1-228-455-00	s	RES, ADJ, METAL 500
RV19	1-228-454-00	s	RES, ADJ, METAL 200
RV20	1-228-462-00	s	RES, ADJ, METAL 100K
RV21	1-228-455-00	s	RES, ADJ, METAL 500

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
RV22	1-228-470-00	s	RES, ADJ, METAL 500
RV23	1-228-455-00	s	RES, ADJ, METAL 500
RV24	1-228-455-00	s	RES, ADJ, METAL 500
RV25	1-228-475-00	s	RES, ADJ, METAL 20K
RV26	1-228-474-00	s	RES, ADJ, METAL 10K
RV27	1-228-469-00	s	RES, ADJ, METAL 200
RV28	1-228-454-00	s	RES, ADJ, METAL 200
RV29	1-230-752-21	s	RES, ADJ, METAL 50K
RV30	1-230-752-21	s	RES, ADJ, METAL 50K
RV31	1-228-469-00	s	RES, ADJ, METAL 200
RV32	1-228-470-00	s	RES, ADJ, METAL 500
RV33	1-228-455-00	s	RES, ADJ, METAL 500
RV34	1-228-474-00	s	RES, ADJ, METAL 10K
RV35	1-228-459-00	s	RES, ADJ, METAL 10K
RV36	1-228-454-00	s	RES, ADJ, METAL 200
RV101	1-228-456-00	s	RES, ADJ, METAL 1K
RV102	1-228-460-00	s	RES, ADJ, METAL 20K
RV103	1-228-459-00	s	RES, ADJ, METAL 10K
RV104	1-228-458-00	s	RES, ADJ, METAL 5K
RV105	1-228-460-00	s	RES, ADJ, METAL 20K
RV106	1-228-459-00	s	RES, ADJ, METAL 10K
RV107	1-228-459-00	s	RES, ADJ, METAL 10K
RV108	1-228-474-00	s	RES, ADJ, METAL 10K
RV109	1-228-474-00	s	RES, ADJ, METAL 10K
RV110	1-228-474-00	s	RES, ADJ, METAL 10K
RV111	1-228-460-00	s	RES, ADJ, METAL 20K
RV112	1-228-459-00	s	RES, ADJ, METAL 10K
S1	1-570-850-11	s	SWITCH, SLIDE
S2	1-570-857-11	s	SWITCH, SLIDE
S3	1-570-857-11	s	SWITCH, SLIDE
S4	1-570-857-11	s	SWITCH, SLIDE
S5	1-564-948-21	o	CONNECTOR, 3P MALE
S6	1-564-948-21	o	CONNECTOR, 3P MALE
S7	1-564-948-21	o	CONNECTOR, 3P MALE
S8	1-564-948-21	o	CONNECTOR, 3P MALE
S9	1-564-948-21	o	CONNECTOR, 3P MALE
S10	1-570-857-11	s	SWITCH, SLIDE
S11	1-570-857-11	s	SWITCH, SLIDE
S12	1-570-857-11	s	SWITCH, SLIDE
S13	1-570-857-11	s	SWITCH, SLIDE
S14	1-570-857-11	s	SWITCH, SLIDE
S15	1-570-857-11	s	SWITCH, SLIDE
S51	1-553-252-00	s	SWITCH, ROTARY
S52	1-570-611-11	s	SWITCH, TOGGLE
S53	1-553-252-00	s	SWITCH, ROTARY
S54	1-570-610-11	s	SWITCH, TOGGLE
THP731	1-806-166-00	s	THERMISTOR (POSITIVE)

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

FRAME

Ref. No. or Q'ty	Part No.	SP	Description
	⚠1-449-937-11	s	TRANSFORMER, POWER
CN1F (to AU-130 board)	1-562-156-11	o	HOUSING, 11P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN1F (to AU-130 board)	1-562-147-11	o	HOUSING, 2P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN1F (to CN-341 board)	1-575-358-11	o	CABLE, FLAT (REM)
CN1F (to CN-344 board)	1-575-357-11	o	CABLE, FLAT (DATA)
CN1F (to CN-348 board)	1-561-876-00	o	HOUSING, 3P
	1-560-764-21	o	CONTACT, FEMALE, AWG18-24
CN1F (to CN-370 board)	1-562-265-11	o	HOUSING, 5P
	1-562-210-11	s	CONTACT, FEMALE, AWG22-18
CN1F (to IO-49 board)	1-561-877-00	o	HOUSING, 6P
	1-560-764-21	o	CONTACT, FEMALE, AWG18-24
CN1F (to PS-196 board)	1-562-211-11	o	HOUSING, VH, 3P
	1-562-210-11	o	CONTACT, FEMALE, AWG22-18
CN1F (to TM-25 board)	1-562-149-11	o	HOUSING, 4P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN2F (to AU-130 board)	1-562-153-11	o	HOUSING, 8P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN2F (to IO-49 board)	1-561-876-00	o	HOUSING, 3P
	1-560-764-21	o	CONTACT, FEMALE, AWG24-28
CN2F (to PS-197 board)	1-562-286-11	o	HOUSING, 5P
	1-562-210-11	s	CONTACT, FEMALE, AWG22-18
CN3F (to AU-130 board)	1-562-154-11	o	HOUSING, 9P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN3F (to IO-49 board)	1-942-761-11	o	HARNESS (R-VIDEO)
	1-560-163-00	o	PLUG, RF
CN3F (to PS-197 board)	1-563-129-11	o	HOUSING, 30P
	1-563-115-11	o	CONTACT, FEMALE, AWG24-28
CN4F (to AU-130 board)	1-562-352-11	o	HOUSING, VH, 2P
	1-562-210-11	o	CONTACT, FEMALE, AWG22-18
CN4F (to CN-341 board)	1-562-151-11	o	HOUSING, 6P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30

(FRAME)

Ref. No. or Q'ty	Part No.	SP	Description
CN4F (to CN-348 board)			
	1-562-665-11	o	CONNECTOR(WITH LOCK)4P
	1-560-764-21	o	CONTACT, FEMALE, AWG18-24
CN4F (to CN-370 board)			
	1-562-833-11	o	HOUSING, 7P
	1-562-210-11	s	CONTACT, FEMALE, AWG22-18
CN4F (to PS-197 board)			
	1-562-287-11	o	HOUSING, 8P
	1-562-210-11	s	CONTACT, FEMALE, AWG22-18
CN5F (to CN-348 board)			
	1-563-072-11	o	HOUSING, 6P
	1-560-764-21	o	CONTACT, FEMALE, AWG18-24
CN5F (to CN-370 board)			
	1-561-431-21	o	HOUSING, (8MM PITCH)6P
	1-509-895-00	s	CONTACT, FEMALE, AWG18-24
CN5F (to PS-197 board)			
	1-562-153-11	o	HOUSING, 8P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN6F (to CN-341 board)			
	1-563-126-11	o	HOUSING, 24P
	1-563-115-11	o	CONTACT, FEMALE, AWG24-28
CN6F (to CN-344 board)			
	1-562-149-11	o	HOUSING, 4P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN6F (to CN-348 board)			
	1-561-876-00	o	HOUSING, 3P
	1-560-764-21	o	CONTACT, FEMALE, AWG18-24
CN6F (to PS-197 board)			
	1-562-149-11	o	HOUSING, 4P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN7F (to CN-341 board)			
	1-563-124-11	o	HOUSING, 20P
	1-563-115-21	o	CONTACT, FEMALE, AWG24-28
CN7F (to CN-348 board)			
	1-562-149-11	o	HOUSING, 4P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN9F (to MB-271 board)			
	1-561-895-00	o	HOUSING, 50P, FEMALE
	1-560-767-00	o	CONTACT, FEMALE, AWG22-24
	1-560-768-00	o	CONTACT, FEMALE, AWG24-28
CN10F (to MB-271 board)			
	1-563-120-11	o	HOUSING, 12P
	1-563-115-11	o	CONTACT, FEMALE, AWG24-28
CN11F (to CN-342 board)			
	1-562-155-11	o	HOUSING, 10P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN11F (to MB-271 board)			
	1-575-357-11	o	CABLE, FLAT (DATA) "MSU/RCP"
CN12F (to MB-271 board)			
	1-563-126-11	o	HOUSING, 24P
	1-563-115-11	o	CONTACT, FEMALE, AWG24-28
CN13F (to MB-271 board)			
	1-575-358-11	o	CABLE, FLAT (REM)

(FRAME)

Ref. No. or Q'ty	Part No.	SP	Description
CN14F (to MB-271 board)			
	1-563-129-11	o	HOUSING, 30P
	1-563-115-11	o	CONTACT, FEMALE, AWG24-28
CN16F (to CN-343 board)			
	1-562-159-00	s	CONNECTOR (P-F)
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN16F (to MB-271 board)			
	1-942-761-11	o	HARNESS (R-VIDEO)
	1-560-163-00	s	PLUG, RF
CN17F (to CN-343 board)			
	1-562-157-11	o	HOUSING, 12P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN18F (to CN-343 board)			
	1-562-149-11	o	HOUSING, 4P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN101	⚠1-540-118-11	s	INLET, AC 3P
CN102	1-560-744-00	s	CONNECTOR, DOUBLE COAXIAL, TRIAX "CAMERA"
CN103	1-563-890-21	s	CONNECTOR, D-SUB 9P, FEMALE "REMOTE MIC"
CN104	1-563-890-21	s	CONNECTOR, D-SUB 9P, FEMALE "REMOTE INTERCOM"
CN105	1-509-184-31	s	CONNECTOR, 3P FEMALE "MIC OUT 1"
CN106	1-509-176-31	s	CONNECTOR, 3P MALE "MIC OUT 2"
CN109	1-564-971-11	o	CONNECTOR, 19P MALE "INTERCOM/TALLY/ PGM"
CN110	1-561-336-41	s	CONNECTOR "INPUT REFERENCE"
CN111	1-561-336-41	s	CONNECTOR "INPUT RET 1"
CN112	1-561-336-41	s	CONNECTOR "INPUT RET 2"
CN113	1-561-336-41	s	CONNECTOR "INPUT PROMPTER"
CN114	1-561-336-41	s	CONNECTOR "RET 3"
CN115	1-561-336-41	s	CONNECTOR "INPUT REFERENCE"
CN116	1-561-336-41	s	CONNECTOR "INPUT RET 1"
CN117	1-561-336-41	s	CONNECTOR "INPUT RET 2"
CN118	1-561-336-41	s	CONNECTOR "INPUT PROMPTER"
CN119	1-561-336-41	s	COMMECTOR "RET 3"
CN120	1-561-336-41	s	COMMECTOR "OUTPUT VBS 1"
CN121	1-561-336-41	s	COMMECTOR "OUTPUT VBS 3"
CN122	1-561-336-41	s	COMMECTOR "OUTPUT Y"
CN123	1-561-336-41	s	COMMECTOR "OUTPUT R-Y"
CN124	1-561-336-41	s	COMMECTOR "OUTPUT B-Y"
CN125	1-561-336-41	s	COMMECTOR "OUTPUT VBS 2"
CN126	1-561-336-41	s	COMMECTOR "OUTPUT VBS/VB"
CN127	1-561-336-41	s	COMMECTOR "OUTPUT R"
CN128	1-561-336-41	s	COMMECTOR "OUTPUT G"
CN129	1-561-336-41	s	COMMECTOR "OUTPUT B"
CN130	1-561-336-41	s	COMMECTOR "OUTPUT PIX"
CN131	1-561-336-41	s	COMMECTOR "OUTPUT WF"
CN132	1-561-336-41	s	COMMECTOR "OUTPUT MONITOR"
CN133	1-561-336-41	s	COMMECTOR "OUTPUT SYNC"
CN134	1-561-336-41	s	COMMECTOR "SPARE"
CN135	1-569-133-11	o	CONNECTOR, MULTI, 16P, FEMALE "MSU"
CN136	1-569-133-11	o	CONNECTOR, MULTI, 16P, FEMALE "MSU"
CN137	1-569-133-11	o	CONNECTOR, MULTI, 16P, FEMALE "RCP"

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

(FRAME)

Ref. No. or Q'ty	Part No.	SP	Description
CN138	1-561-376-00	s	CONNECTOR (S) 4P "WF MODE"
CN301F	1-944-753-12	o	HARNESS (POWER)
	1-562-945-11	o	CONNECTOR, MULTI 50P, FEMALE
	1-562-580-11	o	CONTACT, FEMALE, AWG24-28
CN301M	1-944-742-12	o	HARNESS (PS)
	1-560-051-00	s	CONNECTOR, MULTI 50P, MALE
	1-564-774-11	o	CONTACT, AWG22-24
	1-564-775-11	s	CONTACT, AWG24-28
F101	⚠1-532-203-00	s	FUSE, TIME-LAG 2A 250V "CAMERA"
F102	⚠1-532-325-00	s	FUSE, TIME-LAG 6.3A 250V "MAIN"
J101	1-507-676-00	s	JACK, PHONE "INCOM"
J102	1-507-676-00	s	JACK, PHONE "PGM"
M101	1-541-742-11	s	FAN, DC
S101	⚠1-570-117-11	s	SWITCH, ROCKER (AC POWER) "CAMERA"
S102	⚠1-570-117-11	s	SWITCH, ROCKER (AC POWER) "MAIN"
S103	1-570-173-11	s	SWITCH, VOLTAGE SELECTOR
RV101	1-230-817-11	s	RES, VER, CARBON 5K "INTERCOM"
RV102	1-230-817-11	s	RES, VER, CARBON 5K "PGM"

PACKING MATERIALS & SUPPLIED ACCESSORIES

Ref. No. or Q'ty	Part No.	SP	Description
1	A-7515-097-A	o	MOUNTED CIRCUIT BOARD, EX-240
1	A-7612-310-A	o	PLATE ASSY, NUMBER
1	1-506-787-11	s	HOUSING, 19P FEMALE
1	1-532-203-00	s	FUSE, TIME-LAG 2A 250V
1	1-532-325-00	s	FUSE, TIME-LAG 6.3A 250V
1	1-532-740-11	s	FUSE, GLASS TUBE 1A 250V
1	⚠1-556-782-11	s	CORD, POWER
1	1-560-155-00	s	CONNECTOR, 4P, MALE
1	2-990-242-01	o	HOLDER (B), PLUG

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

CCU-370P (AE)
3-741-765-07

Sony Corporation
Camera Products Group

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UPDATE INFORMATION

MODEL NAME CCU-370P(AE)
Operation and Maintenance Manual
REVISION NO. 1st Edition Revised 6
DATE 1991. 3

Rev. No.	S. No.	Action	Page
E1 R5	41101 – 41300	Add	2-4, 5
			D-17, 22, 26, 30, 34
E1 R6	41301 –	Replace	C-23 to 25, 32, 39(a), 39(b), 40(b), 60, 62, 97, 102
			D-22, 23, 25, 26, 29, 31 to 37, 39

1) "Rev. No." is the corresponding revised number of the service manual for the customer. E1 R1 means 1st Edition Revised 1.
"Serial Number" is the serial number range which the Rev.No. in the left column covers.

2) The changed portions are indicated by doted line and/or "＊＊" (double asterisk).

3) "N.A." in the serial number column means there is no machine covering this revision.
The machine for the different market, e.g. Japan, may exist for this manual revision.

CN-348 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-632-937-12	o	PRINTED CIRCUIT BOARD, CN-348
1pc	3-740-881-01	o	BRACKET, CN PC BOARD
2pcs	7-682-903-11	s	SCREW +PWH 3X6
CI	1-136-185-00	s	FILM 0.22uF 20% 250V
CN1	1-564-978-11	o	CONNECTOR (LIGHT ANGLE)3P, MALE
CN2	1-564-794-11	o	CONNECTOR, 7P MALE
CN3	1-564-791-11	o	WAFER ASSY 4P
CN4	1-564-979-11	o	CONNECTOR (LIGHT ANGLE)4P, MALE
CN5	1-506-871-00	o	CONNECTOR 6P, MALE
CN6	1-564-978-11	o	CONNECTOR (LIGHT ANGLE)3P, MALE
CN7	1-506-483-21	o	CONNECTOR, 4P, MALE
CN8	1-506-481-11	o	CONNECTOR, 2P, MALE
R1	1-214-937-00	s	METAL 1M 1% 1/2W

CN-370 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-632-938-11	o	PRINTED CIRCUIT BOARD, CN-370
CN1	1-564-216-00	o	CONNECTOR 5P, MALE
CN2	1-564-214-11	o	CONNECTOR 3P
CN3	1-564-214-11	o	CONNECTOR 3P
CN4	1-566-313-11	o	CONNECTOR 7P, MALE
CN5	1-506-348-XX	o	CONNECTOR, MALE 6P

DM-79 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-096-A	o	MOUNTED CIRCUIT BOARD, DM-79
6pcs	1-533-189-11	o	HOLDER, FUSE
1pc	1-562-372-00	s	SOCKET, SHORT 2P
2pcs	7-251-522-00	s	LEVER, PC BOARD
1pc	3-741-762-01	o	PLATE, SHIELD, RET
4pcs	7-622-207-05	s	N 2.6, TYPE 2
2pcs	7-626-317-11	s	PIN, SPRING 2.5X6
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
1pc	7-682-546-04	s	SCREW +B 3X5
5pcs	7-682-903-01	s	SCREW +PWH 3X5
C53	1-163-115-00	s	CERAMIC CHIP 82PF 5% 50V
C57	1-126-151-11	s	ELECT 4.7uF 20% 16V
C58	1-163-139-00	s	CERAMIC CHIP 820PF 5% 50V
C60	1-124-257-00	s	ELECT 2.2uF 20% 50V
* C79	1-161-473-00	s	CERAMIC 0.01uF 50V
C80	1-161-473-00	s	CERAMIC 0.01uF 50V
C86	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C101	1-161-888-11	s	CERAMIC 0.01uF 50V
C102	1-161-485-00	s	CERAMIC 0.1uF 50V
C114	1-124-257-00	s	ELECT 2.2uF 20% 50V
C115	1-124-257-00	s	ELECT 2.2uF 20% 50V
C129	1-124-257-00	s	ELECT 2.2uF 20% 50V
C130	1-124-257-00	s	ELECT 2.2uF 20% 50V
C199	1-161-485-00	s	CERAMIC 0.1uF 50V
C213	1-124-257-00	s	ELECT 2.2uF 20% 50V
C214	1-124-257-00	s	ELECT 2.2uF 20% 50V
C244	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C245	1-162-701-11	s	CERAMIC 0.001uF 5% 50V
C246	1-126-151-11	s	ELECT 4.7uF 20% 16V
C247	1-162-765-11	s	CERAMIC 0.001uF 5% 50V
C273	1-163-088-00	s	CERAMIC CHIP 5PF 0.25PF 50V
C274	1-161-888-11	s	CERAMIC 0.01uF 50V
C275	1-126-151-11	s	ELECT 4.7uF 20% 16V
C276	1-161-888-11	s	CERAMIC 0.01uF 50V
C277	1-126-094-11	s	ELECT 4.7uF 20% 16V
C278	1-126-094-11	s	ELECT 4.7uF 20% 16V
C281	1-107-161-00	s	MICA 39PF 5% 500V
C298	1-107-205-00	s	MICA 13PF 5% 500V
C299	1-162-748-11	s	CERAMIC 62PF 5% 50V
C301	1-162-674-11	s	CERAMIC 39PF 5% 50V
C304	1-107-041-00	s	MICA 1.8PF 0.5PF 500V
C320	1-107-046-00	s	MICA 4.7PF 0.5PF 500V
C322	1-107-042-00	s	MICA 2.2PF 0.5PF 500V
C326	1-107-042-00	s	MICA 2.2PF 0.5PF 500V
C333	1-107-044-00	s	MICA 3.3PF 0.5PF 500V
C337	1-124-120-11	s	ELECT 220uF 20% 25V
C338	1-126-233-11	s	ELECT 22uF 20% 35V
C339	1-124-120-11	s	ELECT 220uF 20% 25V
C340	1-124-120-11	s	ELECT 220uF 20% 25V
C342	1-126-176-11	s	ELECT 220uF 20% 10V
C343	1-126-176-11	s	ELECT 220uF 20% 10V
C344	1-126-233-11	s	ELECT 22uF 20% 35V
* * C360	1-161-485-00	s	CERAMIC 0.1MF 50V
CN1	1-562-729-11	o	CONNECTOR, MULTI 64P, MALE
CN2	1-562-729-11	o	CONNECTOR, MULTI 64P, MALE
CN3	1-569-170-11	o	CONNECTOR, COAXIAL (SMALL TYPE), MALE
CN4	1-569-170-11	o	CONNECTOR, COAXIAL (SMALL TYPE), MALE

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

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(DM-79 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
CN5	1-569-170-11	o	CONNECTOR, COAXIAL (SMALL TYPE), MALE
CN6	1-561-310-00	s	CONNECTOR, RF
CN7	1-569-170-11	o	CONNECTOR, COAXIAL (SMALL TYPE), MALE
CN8	1-506-471-11	o	CONNECTOR, 6P, MALE
CN9	1-506-470-11	o	CONNECTOR, 5P, MALE
CV1	1-141-298-11	s	CERAMIC TRIMMER 10P
D1	8-719-903-27	s	DIODE 1SS168
D2	8-719-903-27	s	DIODE 1SS168
D3	8-719-903-27	s	DIODE 1SS168
D4	8-719-903-27	s	DIODE 1SS168
D5	8-719-903-27	s	DIODE 1SS168
D6	8-719-903-27	s	DIODE 1SS168
D7	8-719-903-27	s	DIODE 1SS168
D8	8-719-903-27	s	DIODE 1SS168
D9	8-719-903-27	s	DIODE 1SS168
D10	8-719-903-27	s	DIODE 1SS168
D11	8-719-903-27	s	DIODE 1SS168
D12	8-719-903-27	s	DIODE 1SS168
D13	8-719-903-27	s	DIODE 1SS168
D14	8-719-903-27	s	DIODE 1SS168
D15	8-719-903-27	s	DIODE 1SS168
D16	8-719-903-27	s	DIODE 1SS168
D17	8-719-903-27	s	DIODE 1SS168
D18	8-719-104-14	s	DIODE 1SV34
D19	8-719-104-14	s	DIODE 1SV34
D20	8-719-104-14	s	DIODE 1SV34
D21	8-719-104-14	s	DIODE 1SV34
D22	8-719-800-76	s	DIODE 1SS226
D23	8-719-800-76	s	DIODE 1SS226
D24	8-719-101-97	s	DIODE 1SS97-1
D25	8-719-101-97	s	DIODE 1SS97-1
D26	8-719-101-97	s	DIODE 1SS97-1
D27	8-719-104-34	s	DIODE 1S2836
D28	8-719-104-31	s	DIODE 1S2838
D29	8-719-104-31	s	DIODE 1S2838
D30	8-719-903-27	s	DIODE 1SS168
D31	8-719-903-27	s	DIODE 1SS168
D32	8-719-903-27	s	DIODE 1SS168
D33	8-719-903-27	s	DIODE 1SS168
D34	8-719-903-27	s	DIODE 1SS168
D35	8-719-903-27	s	DIODE 1SS168
D36	8-719-903-27	s	DIODE 1SS168
D37	8-719-903-27	s	DIODE 1SS168
D38	8-719-903-27	s	DIODE 1SS168
D39	8-719-903-27	s	DIODE 1SS168
D40	8-719-903-27	s	DIODE 1SS168
D41	8-719-903-27	s	DIODE 1SS168
D42	8-719-903-27	s	DIODE 1SS168
D43	8-719-903-27	s	DIODE 1SS168
D44	8-719-903-27	s	DIODE 1SS168
D47	8-719-104-14	s	DIODE 1SV34
D48	8-719-104-14	s	DIODE 1SV34
D49	8-719-104-14	s	DIODE 1SV34
D50	8-719-104-14	s	DIODE 1SV34
D51	8-719-800-76	s	DIODE 1SS226

(DM-79 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
D52	8-719-104-14	s	DIODE 1SV34
D53	8-719-800-76	s	DIODE 1SS226
D54	8-719-300-57	s	DIODE 1T33
D55	8-719-300-57	s	DIODE 1T33
D58	8-719-104-34	s	DIODE 1S2836
D60	8-719-104-34	s	DIODE 1S2836
D62	8-719-104-34	s	DIODE 1S2836
D63	8-719-800-99	s	DIODE TLG223
D64	8-719-800-99	s	DIODE TLG223
D65	8-719-800-99	s	DIODE TLG223
D66	8-719-800-99	s	DIODE TLG223
D67	8-719-101-47	s	DIODE RD4.7EL2
D68	8-719-101-47	s	DIODE RD4.7EL2
D69	8-719-118-38	s	DIODE 1SZ46A
D70	8-719-101-50	s	DIODE RD5.1E-L2
D72	8-719-104-34	s	DIODE 1S2836
D73	8-719-800-76	s	DIODE 1SS226
DL1	1-415-709-11	s	DELAY LINE
F1	⚠1-532-740-11	s	FUSE, GLASS TUBE 1A 125V
F2	⚠1-532-740-11	s	FUSE, GLASS TUBE 1A 125V
F3	⚠1-532-740-11	s	FUSE, GLASS TUBE 1A 125V
FL1	1-466-277-11	s	EQUALIZER, PHASE (EQY)
FL2	1-236-276-11	s	L.P.F
FL3	1-235-570-11	s	BAND PASS 18MHz
FL4	1-415-435-11	s	PHASE SHIFT
** FL5	1-236-083-11	s	L.P.F
FL7	1-466-278-11	s	EQUALIZER, PHASE (EQC)
FL8	1-236-277-11	s	LOW PASS 4MHz
FL9	1-236-278-11	s	LOW PASS 36MHz
FL10	1-236-277-11	s	LOW PASS 4MHz
FL11	1-426-476-12	s	FILTER, MPX
FL12	1-236-272-11	s	BAND PASS 70MHz
FL13	1-466-285-11	s	EQUALIZER, CABLE (Y-280)
FL14	1-466-286-11	s	EQUALIZER, CABLE (Y-280)
FL15	1-466-286-11	s	EQUALIZER, CABLE (Y-280)
FL16	1-466-285-11	s	EQUALIZER, CABLE (Y-280)
FL17	1-466-286-11	s	EQUALIZER, CABLE (Y-280)
FL18	1-466-285-11	s	EQUALIZER, CABLE (Y-140)
FL19	1-466-288-11	s	EQUALIZER, CABLE (C-280)
FL20	1-466-288-11	s	EQUALIZER, CABLE (C-280)
FL21	1-466-288-11	s	EQUALIZER, CABLE (C-280)
FL22	1-466-288-11	s	EQUALIZER, CABLE (C-280)
FL23	1-466-288-11	s	EQUALIZER, CABLE (C-280)
FL24	1-466-287-11	s	EQUALIZER, CABLE (C-140)
IC1	8-759-987-27	s	IC LM1881M
IC3	8-759-602-98	s	IC CX20183
IC4	8-759-205-21	s	IC TC74HC221F
IC7	8-759-981-51	s	IC RC1458M
IC8	8-759-205-21	s	IC TC74HC221F
IC9	8-759-100-93	s	IC UPC393G2
IC10	8-759-906-53	s	IC TL062CPS
IC11	8-759-981-51	s	IC RC1458M
IC12	8-741-130-40	s	IC BX1304
IC13	8-741-108-20	s	IC BX1082
IC16	8-759-906-53	s	IC TL062CPS
IC17	8-759-906-53	s	IC TL062CPS
IC18	8-759-009-07	s	IC MC14053BF

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

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(DM-79 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q78	8-729-216-22	s	TRANSISTOR 2SA1162
Q79	8-729-216-22	s	TRANSISTOR 2SA1162
Q81	8-729-100-66	s	TRANSISTOR 2SC1623
Q82	8-729-100-66	s	TRANSISTOR 2SC1623
Q83	8-729-175-73	s	TRANSISTOR 2SC2757
Q84	8-729-175-73	s	TRANSISTOR 2SC2757
Q85	8-729-175-73	s	TRANSISTOR 2SC2757
Q86	8-729-100-66	s	TRANSISTOR 2SC1623
Q87	8-729-100-66	s	TRANSISTOR 2SC1623
Q88	8-729-122-63	s	TRANSISTOR 2SA1226
Q89	8-729-113-33	s	TRANSISTOR 2SB733-4
Q90	8-729-140-96	s	TRANSISTOR 2SB774-34
Q91	8-729-113-33	s	TRANSISTOR 2SB733-4
Q92	8-729-216-22	s	TRANSISTOR 2SA1162
Q93	8-729-175-73	s	TRANSISTOR 2SC2757
Q94	8-729-100-66	s	TRANSISTOR 2SC1623
Q95	8-729-175-73	s	TRANSISTOR 2SC2757
Q96	8-729-100-66	s	TRANSISTOR 2SC1623
Q97	8-729-216-22	s	TRANSISTOR 2SA1162
Q98	8-729-175-73	s	TRANSISTOR 2SC2757
Q99	8-729-100-66	s	TRANSISTOR 2SC1623
Q100	8-729-175-73	s	TRANSISTOR 2SC2757
Q101	8-729-100-66	s	TRANSISTOR 2SC1623
Q102	8-729-216-22	s	TRANSISTOR 2SA1162
Q103	8-729-175-73	s	TRANSISTOR 2SC2757
Q104	8-729-100-66	s	TRANSISTOR 2SC1623
Q105	8-729-175-73	s	TRANSISTOR 2SC2757
Q106	8-729-100-66	s	TRANSISTOR 2SC1623
Q107	8-729-216-22	s	TRANSISTOR 2SA1162
Q108	8-729-175-73	s	TRANSISTOR 2SC2757
Q109	8-729-100-66	s	TRANSISTOR 2SC1623
Q110	8-729-216-22	s	TRANSISTOR 2SA1162
Q111	8-729-175-73	s	TRANSISTOR 2SC2757
Q112	8-729-100-66	s	TRANSISTOR 2SC1623
Q113	8-729-175-73	s	TRANSISTOR 2SC2757
Q114	8-729-100-66	s	TRANSISTOR 2SC1623
R1	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R6	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R7	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R11	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R18	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R19	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R22	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R29	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R30	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R34	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R41	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W
R42	1-216-654-11	s	METAL CHIP 1.3K 0.50% 1/10W
R45	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R53	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R54	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R58	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R61	1-216-640-11	s	METAL CHIP 360 0.50% 1/10W
R62	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R63	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W
R64	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R65	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W
R66	1-216-637-11	s	METAL CHIP 270 0.50% 1/10W

(DM-79 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R68	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R93	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
* *R91	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R99	1-216-694-11	s	METAL 62K 0.50% 1/10W
R111	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R112	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R113	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R114	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R119	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R120	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R121	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R123	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R135	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R145	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R148	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R149	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R150	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R152	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R158	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R160	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R161	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R162	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R164	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R170	1-216-659-11	s	METAL CHIP 5.1K 0.50% 1/10W
R178	1-216-690-11	s	METAL CHIP 43K 0.50% 1/10W
R179	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R184	1-249-438-11	s	CARBON 56K 0.50% 1/4W
R185	1-216-678-11	s	METAL CHIP 13K 0.50% 1/10W
R187	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R206	1-216-645-11	s	METAL CHIP 560 0.50% 1/10W
R208	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R212	1-216-653-11	s	METAL CHIP 1.2K 0.50% 1/10W
R213	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R214	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R216	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R217	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R218	1-216-676-11	s	METAL CHIP 11K 0.50% 1/10W
R219	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R220	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
R231	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R236	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R237	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R241	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R248	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R249	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R252	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R259	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R260	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R262	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R264	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R272	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R273	1-216-661-11	s	METAL CHIP 2.7K 0.50% 1/10W
R276	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R283	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R284	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R286	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R288	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R290	1-249-409-11	s	CARBON 220 5% 1/4W
R291	1-216-652-11	s	METAL CHIP 1.1K 0.50% 1/10W

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

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(DM-79 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R292	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R293	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R294	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R295	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R296	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R298	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R331	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R339	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R342	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R345	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R347	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R349	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R381	1-216-670-11	s	METAL CHIP 6.2K 0.50% 1/10W
R388	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R392	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R395	1-216-691-11	s	METAL CHIP 47K 0.50% 1/10W
R397	1-216-662-11	s	METAL CHIP 3K 0.50% 1/10W
R399	1-216-669-11	s	METAL CHIP 5.6K 0.50% 1/10W
R414	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R415	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R436	1-216-653-11	s	METAL CHIP 1.2K 0.50% 1/10W
R437	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R445	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R455	1-216-636-11	s	METAL CHIP 240 0.50% 1/10W
R456	1-249-425-11	s	CARBON 10K 5% 1/4W
R458	1-216-678-11	s	METAL CHIP 13K 0.50% 1/10W
R485	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R487	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R496	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R497	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R506	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R507	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R516	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R517	1-216-654-11	s	METAL CHIP 1.3K 0.50% 1/10W
R539	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R540	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R541	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R546	1-216-686-11	s	METAL CHIP 30K 0.50% 1/10W
R550	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R552	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R555	1-216-646-11	s	METAL CHIP 620 0.50% 1/10W
R557	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R561	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R565	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
RV1	1-228-460-00	s	RES. ADJ. METAL 20K
RV2	1-228-457-00	s	RES. ADJ. METAL 2K
RV3	1-228-456-00	s	RES. ADJ. METAL 1K
RV4	1-228-460-00	s	RES. ADJ. METAL 20K
RV5	1-228-459-00	s	RES. ADJ. METAL 10K
RV6	1-228-457-00	s	RES. ADJ. METAL 2K
RV7	1-228-457-00	s	RES. ADJ. METAL 2K
RV8	1-228-472-00	s	RES. ADJ. METAL 2K
RV9	1-228-455-00	s	RES. ADJ. METAL 500
RV11	1-228-457-00	s	RES. ADJ. METAL 2K
RV12	1-228-460-00	s	RES. ADJ. METAL 20K
RV13	1-228-457-00	s	RES. ADJ. METAL 2K
RV14	1-228-471-00	s	RES. ADJ. METAL 1K
RV15	1-228-458-00	s	RES. ADJ. METAL 5K
RV16	1-228-459-00	s	RES. ADJ. METAL 10K

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

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(DM-79 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
RV17	1-228-457-00	s	RES. ADJ. METAL 2K
RV18	1-228-471-00	s	RES. ADJ. METAL 1K
RV19	1-228-458-00	s	RES. ADJ. METAL 5K
RV20	1-228-456-00	s	RES. ADJ. METAL 1K
RV22	1-228-457-00	s	RES. ADJ. METAL 2K
RV24	1-228-458-00	s	RES. ADJ. METAL 5K
RV25	1-228-458-00	s	RES. ADJ. METAL 5K
S1	1-570-857-11	s	SWITCH, SLIDE
S2	1-554-027-00	s	SWITCH, ROTARY
SP1	1-564-948-21	o	CONNECTOR 3P, MALE
SP2	1-564-948-21	o	CONNECTOR 3P, MALE
X1	1-577-201-11	s	OSCILLATOR, CRYSTAL, 18MHz
X2	1-577-202-11	s	OSCILLATOR, CRYSTAL 36MHz

EX-240 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-097-A	o	MOUNTED CIRCUIT BOARD, EX-240
2pcs	3-740-896-01	o	REINFORCEMENT, EX
12pcs	7-622-207-05	s	N 2.6, TYPE 2
8pcs	7-628-254-20	s	SCREW +PS 2.6X8
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
4pcs	7-682-649-09	s	SCREW +PS 3X10
9pcs	7-682-903-11	s	SCREW +PWH 3X6
CN1	1-563-154-11	o	CONNECTOR, MULTI (L-J) 64P, FEMALE
CN2	1-563-164-11	o	CONNECTOR, MULTI (L-J) 64P, FEMALE
CN3	1-562-768-11	o	CONNECTOR, MULTI 64P, FEMALE
CN4	1-562-768-11	o	CONNECTOR, MULTI 64P, FEMALE
CN5	1-562-729-11	o	CONNECTOR, MULTI 64P, MALE
CN6	1-562-729-11	o	CONNECTOR, MULTI 64P, MALE

PS-197 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-7515-090-A	o	MOUNTED CIRCUIT BOARD, PS-197
1pc	3-740-871-01	o	HEAT SINK
1pc	3-740-875-01	o	RETAINER
1pc	7-682-250-04	s	SCREW +K 3X12
2pcs	7-682-903-11	s	SCREW +PWH 3X6
C1	1-126-096-11	s	ELECT 10uF 20% 35V
C2	1-124-122-11	s	ELECT 100uF 20% 50V
C3	1-126-096-11	s	ELECT 10uF 20% 35V
C4	1-124-122-11	s	ELECT 100uF 20% 50V
C5	1-124-473-11	s	ELECT 1000uF 20% 10V
C6	1-124-473-11	s	ELECT 1000uF 20% 10V
C7	1-124-360-00	s	ELECT 1000uF 20% 16V
C8	1-124-360-00	s	ELECT 1000uF 20% 16V
C9	1-124-473-11	s	ELECT 1000uF 20% 10V
C10	1-124-473-11	s	ELECT 1000uF 20% 10V
C11	1-124-360-00	s	ELECT 1000uF 20% 16V
C15	1-126-101-11	s	ELECT 100uF 20% 10V
C17	1-136-206-11	s	FILM 0.033uF 5% 630V
C18	1-136-207-11	s	FILM 0.047uF 5% 400V
C19	1-136-206-11	s	FILM 0.033uF 5% 630V
C20	1-136-207-11	s	FILM 0.047uF 5% 400V
C21	1-136-209-11	s	FILM 0.1uF 5% 630V
C27	1-124-468-11	s	ELECT 470uF 20% 25V
C30	1-124-442-00	s	ELECT 330uF 20% 6.3V
CN1	1-564-991-11	o	CONNECTOR 30P
CN2	1-564-242-00	o	CONNECTOR 5P, MALE
CN3	1-505-644-11	o	CONNECTOR, PS 30P, MALE
CN4	1-564-243-00	o	CONNECTOR, 6P, MALE
CN5	1-505-473-11	o	CONNECTOR, 8P, MALE
CN6	1-505-469-11	o	CONNECTOR, 4P, MALE
D1	8-719-921-12	s	DIODE MTZ8LL
D2	8-719-102-24	s	DIODE RD30EL2
D3	8-719-102-10	s	DIODE RD22EL2
D4	8-719-921-12	s	DIODE MTZ8LL
D5	8-719-102-24	s	DIODE RD30EL2
D6	8-719-102-10	s	DIODE RD22EL2
D7	8-719-981-01	s	DIODE ERA81-004
D8	8-719-104-31	s	DIODE 1S2838
D9	8-719-101-76	s	DIODE RD10EL2
D10	8-719-104-31	s	DIODE 1S2838
D11	8-719-820-59	s	DIODE 1S2348H
D12	8-719-104-31	s	DIODE 1S2838
D13	8-719-304-70	s	DIODE RH-1C
D14	8-719-104-31	s	DIODE 1S2838
D15	8-719-104-31	s	DIODE 1S2838
D16	8-719-104-31	s	DIODE 1S2838
D17	8-719-821-50	s	DIODE TLP624(BV)
D18	8-719-821-50	s	DIODE TLP624(BV)
D19	8-719-821-50	s	DIODE TLP624(BV)
D20	8-719-160-37	s	DIODE RD7.5FB2
D21	8-719-160-37	s	DIODE RD7.5FB2
D22	8-719-160-37	s	DIODE RD7.5FB2
D23	8-719-160-37	s	DIODE RD7.5FB2
D24	8-719-104-31	s	DIODE 1S2838
D25	8-719-160-46	s	DIODE RD10FB2
D26	8-719-104-31	s	DIODE 1S2838
D27	8-719-101-83	s	DIODE RD12EL2
D28	8-719-101-64	s	DIODE RD6.8EL2

(PS-197 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
D29	8-719-948-47	s	DIODE HSM88AS
D30	8-719-981-01	s	DIODE ERA81-004
IC1	8-759-904-94	s	IC TL494CN
L1	1-459-887-11	s	COIL, TROIDAL 300UH
L2	1-410-253-11	s	COIL, CHOKE 80uH
L3	1-410-253-11	s	COIL, CHOKE 80uH
L4	1-459-887-11	s	COIL, TROIDAL 300UH
L5	1-410-253-11	s	COIL, CHOKE 80uH
L6	1-410-253-11	s	COIL, CHOKE 80uH
L7	1-407-492-00	s	INDUCTOR 1MMH
L8	1-407-492-00	s	INDUCTOR 1MMH
L9	1-459-375-00	s	COIL, CHOKE
L10	1-459-375-00	s	COIL, CHOKE
L11	1-459-375-00	s	COIL, CHOKE
L12	1-459-375-00	s	COIL, CHOKE
L13	1-421-329-00	s	COIL, CHOKE 10uH
LY1	1-515-767-11	s	RELAY
LY2	1-515-767-11	s	RELAY
Q1	8-729-216-22	s	TRANSISTOR 2SA1162
Q2	8-729-105-08	s	TRANSISTOR 2SA1330-06
Q3	8-729-202-92	s	TRANSISTOR 2SD1407-0
Q4	8-729-216-22	s	TRANSISTOR 2SA1162
Q5	8-729-105-08	s	TRANSISTOR 2SA1330-06
Q6	8-729-202-92	s	TRANSISTOR 2SD1407-0
Q7	8-729-100-66	s	TRANSISTOR 2SC1623
Q8	8-729-100-66	s	TRANSISTOR 2SC1623
Q9	8-729-216-22	s	TRANSISTOR 2SA1162
Q10	8-729-216-22	s	TRANSISTOR 2SA1162
Q11	8-729-216-22	s	TRANSISTOR 2SA1162
Q12	8-729-216-22	s	TRANSISTOR 2SA1162
Q13	8-729-216-22	s	TRANSISTOR 2SA1162
Q14	8-729-216-22	s	TRANSISTOR 2SA1162
Q15	8-729-216-22	s	TRANSISTOR 2SA1162
Q16	8-729-100-66	s	TRANSISTOR 2SC1623
Q17	8-729-100-66	s	TRANSISTOR 2SC1623
Q18	8-729-216-22	s	TRANSISTOR 2SA1162
Q19	8-729-216-22	s	TRANSISTOR 2SA1162
Q20	8-729-100-66	s	TRANSISTOR 2SC1623
Q21	8-729-100-66	s	TRANSISTOR 2SC1623
Q22	8-729-105-37	s	TRANSISTOR 2SC3360
Q23	8-729-105-37	s	TRANSISTOR 2SC3360
Q24	8-729-105-37	s	TRANSISTOR 2SC3360
Q25	8-729-105-08	s	TRANSISTOR 2SA1330-06
Q26	8-729-105-08	s	TRANSISTOR 2SA1330-06
Q27	8-729-100-66	s	TRANSISTOR 2SC1623
Q28	8-729-100-66	s	TRANSISTOR 2SC1623
Q29	8-729-100-66	s	TRANSISTOR 2SC1623
R1	1-216-347-11	s	METAL 0.68 5% 1W
R5	1-216-347-11	s	METAL 0.68 5% 1W
R59	1-215-880-00	s	METAL 10 5% 2W
R61	1-249-410-11	s	CARBON 270 5% 1/4W
R66	⚠1-207-612-00	s	WIREWOUND 0.1 10% 3W
R81	⚠1-207-612-00	s	WIREWOUND 0.1 10% 3W
RV1	1-228-458-00	s	RES, ADJ, METAL 5K

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

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(VA-87P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C378	1-124-442-00	s	ELECT 330uF 20% 6.3V
C384	1-124-239-00	s	ELECT 6.8uF 20% 16V
C388	1-124-239-00	s	ELECT 6.8uF 20% 16V
C398	1-162-959-00	s	CERAMIC 22PF 50% 50V
C400	1-161-051-00	s	CERAMIC 0.01uF 10% 25V
C401	1-161-051-00	s	CERAMIC 0.01uF 10% 25V
C402	1-161-051-00	s	CERAMIC 0.01uF 10% 25V
* *C404	1-163-082-00	s	CERAMIC CHIP 0.5PF 0.25PF 50V
CN1	1-562-729-11	o	CONNECTOR, MULTI 6AP, MALE
CN2	1-562-729-11	o	CONNECTOR, MULTI 6AP, MALE
CN3	1-564-871-11	o	CONNECTOR, PS-SF 18P
CP1	1-567-654-11	s	VCO, CRYSTAL 17.734475MHz
CP2	1-567-086-00	s	OSCILLATOR, CRYSTAL
CV1	1-141-299-11	s	CERAMIC TRIMMER 6P
CV2	1-141-299-11	s	CERAMIC TRIMMER 6P
CV3	1-141-299-11	s	CERAMIC TRIMMER 6P
D1	8-719-104-31	s	DIODE 1S2838
D2	8-719-104-31	s	DIODE 1S2838
D3	8-719-104-31	s	DIODE 1S2838
D4	8-719-104-31	s	DIODE 1S2838
D5	8-719-104-31	s	DIODE 1S2838
D6	8-719-104-31	s	DIODE 1S2838
D8	8-719-104-31	s	DIODE 1S2838
D9	8-719-104-31	s	DIODE 1S2838
D22	8-719-800-99	s	DIODE TLG223
D23	8-719-800-99	s	DIODE TLG223
D24	8-719-800-99	s	DIODE TLG223
D25	8-719-800-99	s	DIODE TLG223
D26	8-719-101-47	s	DIODE RD4.7EL2
D27	8-719-101-47	s	DIODE RD4.7EL2
D28	8-719-118-38	s	DIODE 1SZ46A
D51	8-719-104-34	s	DIODE 1S2836
D52	8-719-101-36	s	DIODE RD3.6EL1
D53	8-719-104-34	s	DIODE 1S2836
D54	8-719-109-97	s	DIODE RD6.8ES-B2
D55	8-719-109-97	s	DIODE RD6.8ES-B2
D56	8-719-104-34	s	DIODE 1S2836
D57	8-719-104-34	s	DIODE 1S2836
D59	8-719-800-99	s	DIODE TLG223
D60	8-719-104-34	s	DIODE 1S2836
D61	8-719-800-76	s	DIODE 1SS226
DL1	1-415-711-11	s	DELAY LINE, Y (PAL)
F1	⚠1-532-740-11	s	FUSE, GLASS TUBE 1A 125V
* *F2	⚠1-532-740-11	s	FUSE, GLASS TUBE 1A 125V
FL1	1-236-624-11	s	LOW PASS (U/V)
FL2	1-236-624-11	s	LOW PASS (U/V)
FL3	1-235-181-00	s	BAND PASS 4.43MHz
FL4	1-235-572-11	s	LOW PASS 4.43MHz
IC1	8-759-031-84	s	IC SC7S04F
IC2	8-759-981-51	s	IC RC1495M
IC3	8-759-981-51	s	IC RC1495M
IC4	8-759-911-77	s	IC CX7968A
IC5	8-759-982-25	s	IC RC78L09A
IC6	8-759-906-59	s	IC CX22017
IC7	8-759-906-53	s	IC TL062CPS
IC8	8-759-906-53	s	IC TL062CPS

(VA-87P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC9	8-759-906-53	s	IC TL062CPS
IC10	8-759-906-53	s	IC TL062CPS
IC11	8-759-008-86	s	IC MC14017BF
IC12	8-759-735-99	s	IC UPD27C512G-20-C370VAP
IC13	8-759-926-27	s	IC MC74HC173F
IC14	8-759-926-27	s	IC MC74HC173F
IC15	8-759-209-57	s	IC TCA559F
IC16	8-759-009-05	s	IC MC14051BF
IC17	8-759-009-05	s	IC MC14051BF
IC18	8-759-981-99	s	IC RC4560M
IC19	8-759-906-53	s	IC TL062CPS
IC22	8-759-905-99	s	IC TL062ACP
IC51	8-759-101-12	s	IC UPC31G2
IC52	8-759-030-16	s	IC MC34182M
IC53	8-759-908-39	s	IC CX7998
IC55	8-759-708-05	s	IC NJM78L05A
IC56	8-759-907-81	s	IC SN74LS221NS
IC57	8-759-030-16	s	IC MC34182M
IC58	8-759-201-61	s	IC TC40H004F
IC59	8-759-201-53	s	IC TC40H000F
IC60	8-759-205-21	s	IC TC74HC221F
IC61	8-759-205-21	s	IC TC74HC221F
IC62	8-759-201-61	s	IC TC40H004F
IC63	8-759-908-39	s	IC CX7998
IC64	8-759-926-19	s	IC SN74HC158NS
IC65	8-757-930-11	s	IC CX7930A
IC66	8-759-205-21	s	IC TC74HC221F
IC67	8-759-907-21	s	IC CX7969
IC68	8-759-201-61	s	IC TC40H004F
IC69	8-759-205-21	s	IC TC74HC221F
IC70	8-759-009-46	s	IC MC145288F
IC71	8-759-201-53	s	IC TC40H000F
IC72	8-759-009-07	s	IC MC14053BF
IC73	8-759-009-07	s	IC MC14053BF
IC74	8-759-926-29	s	IC SN74HC175NS
IC75	8-759-926-17	s	IC SN74HC153NS
IC76	8-759-902-88	s	IC SN74LS123NS
IC77	8-759-906-54	s	IC TL064CNS
IC78	8-759-205-21	s	IC TC74HC221F
IC80	8-759-970-59	s	IC TLC272CPS
IC82	8-759-201-53	s	IC TC40H000F
IC83	8-759-231-32	s	IC TC7S00F
L45	1-410-948-11	s	INDUCTOR 100uH
L46	1-410-948-11	s	INDUCTOR 100uH
LV1	1-408-844-00	s	22uH
LV2	1-408-845-00	s	100uH
LV3	1-408-845-00	s	100uH
Q1	8-729-216-22	s	TRANSISTOR 2SA1162
Q2	8-729-216-22	s	TRANSISTOR 2SA1162
Q3	8-729-100-66	s	TRANSISTOR 2SC1623
Q4	8-729-100-66	s	TRANSISTOR 2SC1623
Q5	8-729-216-22	s	TRANSISTOR 2SA1162
Q6	8-729-100-66	s	TRANSISTOR 2SC1623
Q7	8-729-100-66	s	TRANSISTOR 2SC1623
Q8	8-729-100-66	s	TRANSISTOR 2SC1623
Q9	8-729-100-66	s	TRANSISTOR 2SC1623
Q10	8-729-216-22	s	TRANSISTOR 2SA1162

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

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(VA-87P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
Q11	8-729-101-25	s	TRANSISTOR 2SC1009A
Q12	8-729-216-22	s	TRANSISTOR 2SA1162
Q13	8-729-216-22	s	TRANSISTOR 2SA1162
Q14	8-729-100-66	s	TRANSISTOR 2SC1623
Q15	8-729-216-22	s	TRANSISTOR 2SA1162
Q16	8-729-216-22	s	TRANSISTOR 2SA1162
Q17	8-729-100-66	s	TRANSISTOR 2SC1623
Q18	8-729-216-22	s	TRANSISTOR 2SA1162
Q19	8-729-100-66	s	TRANSISTOR 2SC1623
Q20	8-729-100-66	s	TRANSISTOR 2SC1623
Q21	8-729-100-66	s	TRANSISTOR 2SC1623
Q22	8-729-216-22	s	TRANSISTOR 2SA1162
Q23	8-729-100-66	s	TRANSISTOR 2SC1623
Q25	8-729-100-66	s	TRANSISTOR 2SC1623
Q26	8-729-216-22	s	TRANSISTOR 2SA1162
Q27	8-729-100-66	s	TRANSISTOR 2SC1623
Q28	8-729-216-22	s	TRANSISTOR 2SA1162
Q29	8-729-216-22	s	TRANSISTOR 2SA1162
Q30	8-729-100-66	s	TRANSISTOR 2SC1623
Q31	8-729-216-22	s	TRANSISTOR 2SA1162
Q32	8-729-216-22	s	TRANSISTOR 2SA1162
Q33	8-729-216-22	s	TRANSISTOR 2SA1162
Q34	8-729-100-66	s	TRANSISTOR 2SC1623
Q35	8-729-100-66	s	TRANSISTOR 2SC1623
Q36	8-729-216-22	s	TRANSISTOR 2SA1162
Q37	8-729-101-25	s	TRANSISTOR 2SC1009A
Q38	8-729-402-19	s	TRANSISTOR XN6501
Q39	8-729-100-66	s	TRANSISTOR 2SC1623
Q40	8-729-100-66	s	TRANSISTOR 2SC1623
Q41	8-729-100-66	s	TRANSISTOR 2SC1623
Q42	8-729-216-22	s	TRANSISTOR 2SA1162
Q43	8-729-100-66	s	TRANSISTOR 2SC1623
Q44	8-729-100-66	s	TRANSISTOR 2SC1623
Q45	8-729-216-22	s	TRANSISTOR 2SA1162
Q46	8-729-216-22	s	TRANSISTOR 2SA1162
Q47	8-729-100-66	s	TRANSISTOR 2SC1623
Q48	8-729-100-66	s	TRANSISTOR 2SC1623
Q49	8-729-216-22	s	TRANSISTOR 2SA1162
Q50	8-729-216-22	s	TRANSISTOR 2SA1162
Q51	8-729-100-66	s	TRANSISTOR 2SC1623
Q53	8-729-100-66	s	TRANSISTOR 2SC1623
Q54	8-729-216-22	s	TRANSISTOR 2SA1162
Q55	8-729-100-66	s	TRANSISTOR 2SC1623
Q56	8-729-216-22	s	TRANSISTOR 2SA1162
Q57	8-729-216-22	s	TRANSISTOR 2SA1162
Q58	8-729-100-66	s	TRANSISTOR 2SC1623
Q59	8-729-216-22	s	TRANSISTOR 2SA1162
Q60	8-729-216-22	s	TRANSISTOR 2SA1162
Q61	8-729-216-22	s	TRANSISTOR 2SA1162
Q62	8-729-100-66	s	TRANSISTOR 2SC1623
Q63	8-729-100-66	s	TRANSISTOR 2SC1623
Q64	8-729-216-22	s	TRANSISTOR 2SA1162
Q65	8-729-101-25	s	TRANSISTOR 2SC1009A
Q66	8-729-402-19	s	TRANSISTOR XN6501
Q67	8-769-401-67	s	TRANSISTOR 3SK163-1
Q68	8-769-401-67	s	TRANSISTOR 3SK163-1
Q69	8-769-401-67	s	TRANSISTOR 3SK163-1
Q70	8-769-401-67	s	TRANSISTOR 3SK163-1
Q71	8-729-100-66	s	TRANSISTOR 2SC1623

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Ref. No. or Q'ty	Part No.	SP	Description
Q72	8-729-216-22	s	TRANSISTOR 2SA1162
Q73	8-729-100-66	s	TRANSISTOR 2SC1623
Q74	8-729-100-66	s	TRANSISTOR 2SC1623
Q75	8-729-216-22	s	TRANSISTOR 2SA1162
Q76	8-729-216-22	s	TRANSISTOR 2SA1162
Q77	8-729-100-66	s	TRANSISTOR 2SC1623
Q79	8-729-100-66	s	TRANSISTOR 2SC1623
Q80	8-729-216-22	s	TRANSISTOR 2SA1162
Q81	8-729-100-66	s	TRANSISTOR 2SC1623
Q82	8-729-216-22	s	TRANSISTOR 2SA1162
Q83	8-729-216-22	s	TRANSISTOR 2SA1162
Q84	8-729-100-66	s	TRANSISTOR 2SC1623
Q85	8-729-216-22	s	TRANSISTOR 2SA1162
Q86	8-729-216-22	s	TRANSISTOR 2SA1162
Q87	8-729-100-66	s	TRANSISTOR 2SC1623
Q88	8-729-216-22	s	TRANSISTOR 2SA1162
Q89	8-729-100-66	s	TRANSISTOR 2SC1623
Q90	8-729-216-22	s	TRANSISTOR 2SA1162
Q91	8-729-100-66	s	TRANSISTOR 2SC1623
Q92	8-729-100-66	s	TRANSISTOR 2SC1623
Q93	8-729-216-22	s	TRANSISTOR 2SA1162
Q94	8-729-600-22	s	TRANSISTOR 2SA1235-F
Q95	8-729-100-66	s	TRANSISTOR 2SC1623
Q96	8-729-100-66	s	TRANSISTOR 2SC1623
Q97	8-729-100-66	s	TRANSISTOR 2SC1623
Q98	8-729-216-22	s	TRANSISTOR 2SA1162
Q99	8-729-216-22	s	TRANSISTOR 2SA1162
Q100	8-729-100-66	s	TRANSISTOR 2SC1623
Q101	8-729-100-66	s	TRANSISTOR 2SC1623
Q102	8-729-100-66	s	TRANSISTOR 2SC1623
Q103	8-729-216-22	s	TRANSISTOR 2SA1162
Q104	8-729-600-22	s	TRANSISTOR 2SA1235-F
Q105	8-729-216-22	s	TRANSISTOR 2SA1162
Q106	8-729-600-22	s	TRANSISTOR 2SA1235-F
Q110	8-729-175-73	s	TRANSISTOR 2SC2757
Q111	8-729-100-66	s	TRANSISTOR 2SC1623
Q112	8-729-175-73	s	TRANSISTOR 2SC2757
Q113	8-729-216-22	s	TRANSISTOR 2SA1162
Q114	8-729-216-22	s	TRANSISTOR 2SA1162
Q115	8-729-421-71	s	TRANSISTOR 2SK620
Q116	8-729-100-66	s	TRANSISTOR 2SC1623
Q118	8-729-100-66	s	TRANSISTOR 2SC1623
Q119	8-729-216-22	s	TRANSISTOR 2SA1162
Q120	8-729-100-66	s	TRANSISTOR 2SC1623
Q121	8-729-216-22	s	TRANSISTOR 2SA1162
Q122	8-729-216-22	s	TRANSISTOR 2SA1162
Q123	8-729-100-66	s	TRANSISTOR 2SC1623
Q124	8-729-216-22	s	TRANSISTOR 2SA1162
Q125	8-729-175-73	s	TRANSISTOR 2SC2757
Q126	8-729-175-73	s	TRANSISTOR 2SC2757
Q127	8-729-100-66	s	TRANSISTOR 2SC1623
Q128	8-729-216-22	s	TRANSISTOR 2SA1162
Q129	8-729-216-22	s	TRANSISTOR 2SA1162
Q130	8-729-421-71	s	TRANSISTOR 2SK620
Q131	8-729-100-66	s	TRANSISTOR 2SC1623
Q133	8-729-100-66	s	TRANSISTOR 2SC1623
Q134	8-729-216-22	s	TRANSISTOR 2SA1162
Q135	8-729-100-66	s	TRANSISTOR 2SC1623
Q136	8-729-216-22	s	TRANSISTOR 2SA1162

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
Q137	8-729-216-22	s	TRANSISTOR 2SA1162
Q138	8-729-100-66	s	TRANSISTOR 2SC1623
Q139	8-729-216-22	s	TRANSISTOR 2SA1162
Q140	8-729-175-73	s	TRANSISTOR 2SC2757
Q141	8-729-175-73	s	TRANSISTOR 2SC2757
Q143	8-729-216-22	s	TRANSISTOR 2SA1162
Q144	8-729-216-22	s	TRANSISTOR 2SA1162
Q145	8-725-421-71	s	TRANSISTOR 2SK620
Q146	8-729-100-66	s	TRANSISTOR 2SC1623
Q148	8-729-100-66	s	TRANSISTOR 2SC1623
Q149	8-729-216-22	s	TRANSISTOR 2SA1162
Q150	8-729-100-66	s	TRANSISTOR 2SC1623
Q151	8-729-216-22	s	TRANSISTOR 2SA1162
Q152	8-729-216-22	s	TRANSISTOR 2SA1162
Q153	8-729-100-66	s	TRANSISTOR 2SC1623
Q154	8-729-216-22	s	TRANSISTOR 2SA1162
Q155	8-729-100-66	s	TRANSISTOR 2SC1623
Q156	8-729-216-22	s	TRANSISTOR 2SA1162
Q157	8-729-216-22	s	TRANSISTOR 2SA1162
Q158	8-729-216-22	s	TRANSISTOR 2SA1162
Q159	8-729-216-22	s	TRANSISTOR 2SA1162
Q160	8-729-216-22	s	TRANSISTOR 2SA1162
Q161	8-729-216-22	s	TRANSISTOR 2SA1162
Q162	8-729-216-22	s	TRANSISTOR 2SA1162
Q163	8-729-216-22	s	TRANSISTOR 2SA1162
Q164	8-729-100-66	s	TRANSISTOR 2SC1623
Q165	8-729-100-66	s	TRANSISTOR 2SC1623
Q166	8-729-100-66	s	TRANSISTOR 2SC1623
Q167	8-729-100-66	s	TRANSISTOR 2SC1623
Q168	8-729-100-66	s	TRANSISTOR 2SC1623
Q170	8-729-100-66	s	TRANSISTOR 2SC1623
Q171	8-729-216-22	s	TRANSISTOR 2SA1162
Q172	8-729-100-66	s	TRANSISTOR 2SC1623
Q173	8-729-216-22	s	TRANSISTOR 2SA1162
Q174	8-729-216-22	s	TRANSISTOR 2SA1162
Q175	8-729-100-66	s	TRANSISTOR 2SC1623
Q176	8-729-216-22	s	TRANSISTOR 2SA1162
Q177	8-729-216-22	s	TRANSISTOR 2SA1162
Q178	8-729-216-22	s	TRANSISTOR 2SA1162
Q179	8-729-216-22	s	TRANSISTOR 2SA1162
Q180	8-729-216-22	s	TRANSISTOR 2SA1162
Q181	8-729-216-22	s	TRANSISTOR 2SA1162
Q182	8-729-216-22	s	TRANSISTOR 2SA1162
Q183	8-729-216-22	s	TRANSISTOR 2SA1162
Q184	8-729-216-22	s	TRANSISTOR 2SA1162
Q185	8-729-100-66	s	TRANSISTOR 2SC1623
Q186	8-729-100-66	s	TRANSISTOR 2SC1623
Q187	8-729-100-66	s	TRANSISTOR 2SC1623
Q188	8-729-100-66	s	TRANSISTOR 2SC1623
Q189	8-729-100-66	s	TRANSISTOR 2SC1623
Q191	8-729-100-66	s	TRANSISTOR 2SC1623
Q192	8-729-216-22	s	TRANSISTOR 2SA1162
Q193	8-729-100-66	s	TRANSISTOR 2SC1623
Q194	8-729-216-22	s	TRANSISTOR 2SA1162
Q195	8-729-216-22	s	TRANSISTOR 2SA1162
Q196	8-729-100-66	s	TRANSISTOR 2SC1623
Q197	8-729-216-22	s	TRANSISTOR 2SA1162
Q198	8-729-216-22	s	TRANSISTOR 2SA1162
Q199	8-729-216-22	s	TRANSISTOR 2SA1162

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Ref. No. or Q'ty	Part No.	SP	Description
Q200	8-729-216-22	s	TRANSISTOR 2SA1162
Q201	8-729-100-66	s	TRANSISTOR 2SC1623
Q202	8-729-216-22	s	TRANSISTOR 2SA1162
Q203	8-729-216-22	s	TRANSISTOR 2SA1162
Q204	8-729-216-22	s	TRANSISTOR 2SA1162
Q205	8-729-100-66	s	TRANSISTOR 2SC1623
Q206	8-729-100-66	s	TRANSISTOR 2SC1623
Q207	8-729-100-66	s	TRANSISTOR 2SC1623
Q209	8-729-100-66	s	TRANSISTOR 2SC1623
Q210	8-729-216-22	s	TRANSISTOR 2SA1162
Q211	8-729-100-66	s	TRANSISTOR 2SC1623
Q212	8-729-216-22	s	TRANSISTOR 2SA1162
Q213	8-729-216-22	s	TRANSISTOR 2SA1162
Q214	8-729-100-66	s	TRANSISTOR 2SC1623
Q215	8-729-216-22	s	TRANSISTOR 2SA1162
Q216	8-729-100-66	s	TRANSISTOR 2SC1623
Q217	8-729-100-66	s	TRANSISTOR 2SC1623
Q218	8-729-100-66	s	TRANSISTOR 2SC1623
Q219	8-729-100-66	s	TRANSISTOR 2SC1623
Q220	8-729-100-66	s	TRANSISTOR 2SC1623
Q225	8-729-100-66	s	TRANSISTOR 2SC1623
Q226	8-729-100-66	s	TRANSISTOR 2SC1623
Q227	8-729-100-66	s	TRANSISTOR 2SC1623
Q228	8-729-216-22	s	TRANSISTOR 2SA1162
Q229	8-729-100-66	s	TRANSISTOR 2SC1623
Q230	8-729-100-66	s	TRANSISTOR 2SC1623
Q231	8-729-100-66	s	TRANSISTOR 2SC1623
Q232	8-729-100-66	s	TRANSISTOR 2SC1623
Q233	8-729-100-66	s	TRANSISTOR 2SC1623
Q234	8-729-101-25	s	TRANSISTOR 2SC1009A
Q235	8-729-101-25	s	TRANSISTOR 2SC1009A
Q236	8-729-100-66	s	TRANSISTOR 2SC1623
Q237	8-729-216-22	s	TRANSISTOR 2SA1162
Q238	8-729-100-66	s	TRANSISTOR 2SC1623
Q239	8-729-216-22	s	TRANSISTOR 2SA1162
Q240	8-729-202-52	s	TRANSISTOR 2SC2714
Q245	8-729-102-69	s	TRANSISTOR 2SC2757
Q246	8-729-216-22	s	TRANSISTOR 2SA1162
Q247	8-729-100-66	s	TRANSISTOR 2SC1623
Q248	8-729-216-22	s	TRANSISTOR 2SA1162
Q249	8-729-112-49	s	TRANSISTOR 2SA1462
Q250	8-729-100-66	s	TRANSISTOR 2SC1623
Q251	8-729-216-22	s	TRANSISTOR 2SA1162
Q253	8-729-100-66	s	TRANSISTOR 2SC1623
Q254	8-729-216-22	s	TRANSISTOR 2SA1162
Q255	8-729-100-66	s	TRANSISTOR 2SC1623
Q256	8-729-216-22	s	TRANSISTOR 2SA1162
Q257	8-729-216-22	s	TRANSISTOR 2SA1162
Q258	8-729-100-66	s	TRANSISTOR 2SC1623
Q259	8-729-216-22	s	TRANSISTOR 2SA1162
Q260	8-729-100-66	s	TRANSISTOR 2SC1623
Q261	8-729-100-66	s	TRANSISTOR 2SC1623
Q262	8-729-100-66	s	TRANSISTOR 2SC1623
Q263	8-729-216-22	s	TRANSISTOR 2SA1162
Q264	8-729-100-66	s	TRANSISTOR 2SC1623
Q265	8-729-216-22	s	TRANSISTOR 2SA1162
Q268	8-729-100-66	s	TRANSISTOR 2SC1623
Q269	8-729-100-66	s	TRANSISTOR 2SC1623
Q281	8-729-113-33	s	TRANSISTOR 2SB733-4

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
Q282	8-729-140-96	s	TRANSISTOR 2SD774-34
Q285	8-729-175-73	s	TRANSISTOR 2SC2757
Q286	8-729-216-22	s	TRANSISTOR 2SA812
Q287	8-729-216-22	s	TRANSISTOR 2SA812
Q288	8-729-216-22	s	TRANSISTOR 2SA812
Q351	8-729-100-66	s	TRANSISTOR 2SC1623
Q352	8-729-100-66	s	TRANSISTOR 2SC1623
Q353	8-729-100-66	s	TRANSISTOR 2SC1623
Q354	8-729-100-66	s	TRANSISTOR 2SC1623
Q355	8-729-100-66	s	TRANSISTOR 2SC1623
Q356	8-729-100-66	s	TRANSISTOR 2SC1623
Q357	8-729-100-66	s	TRANSISTOR 2SC1623
Q358	8-729-122-63	s	TRANSISTOR 2SA1226
Q359	8-729-122-63	s	TRANSISTOR 2SA1226
Q360	8-729-100-66	s	TRANSISTOR 2SC1623
Q361	8-729-122-63	s	TRANSISTOR 2SA1226
Q362	8-729-175-73	s	TRANSISTOR 2SC2757
Q363	8-729-175-73	s	TRANSISTOR 2SC2757
Q364	8-729-100-66	s	TRANSISTOR 2SC1623
Q365	8-729-113-33	s	TRANSISTOR 2SB733-4
Q366	8-729-140-96	s	TRANSISTOR 2SD774-34
Q367	8-729-109-44	s	TRANSISTOR 2SK94
Q368	8-729-216-22	s	TRANSISTOR 2SA1162
Q369	8-729-100-66	s	TRANSISTOR 2SC1623
Q370	8-729-216-22	s	TRANSISTOR 2SA1162
Q371	8-729-216-22	s	TRANSISTOR 2SA1162
Q372	8-729-100-66	s	TRANSISTOR 2SC1623
Q373	8-729-216-22	s	TRANSISTOR 2SA1162
Q375	8-729-109-44	s	TRANSISTOR 2SK94
Q376	8-729-100-66	s	TRANSISTOR 2SC1623
Q378	8-729-100-66	s	TRANSISTOR 2SC1623
Q379	8-729-100-66	s	TRANSISTOR 2SC1623
Q380	8-729-216-22	s	TRANSISTOR 2SA1162
Q381	8-729-100-66	s	TRANSISTOR 2SC1623
Q382	8-729-216-22	s	TRANSISTOR 2SA1162
Q383	8-729-100-66	s	TRANSISTOR 2SC1623
Q384	8-729-216-22	s	TRANSISTOR 2SA1162
R13	1-216-042-11	s	METAL CHIP 510 0.50% 1/10W
R15	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R18	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
* * R19	1-216-689-11	s	METAL CHIP 39K 0.50% 1/10W
R33	1-216-653-11	s	METAL CHIP 1.2K 0.50% 1/10W
R34	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R35	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R41	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W
R43	1-216-666-11	s	METAL CHIP 5.1K 0.50% 1/10W
R45	1-216-631-11	s	METAL CHIP 150 0.50% 1/10W
R55	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
* * R56	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
* * R57	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R59	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R61	1-216-665-11	s	METAL CHIP 4.3K 0.50% 1/10W
R62	1-216-681-11	s	METAL CHIP 18K 0.50% 1/10W
R63	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R65	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R66	1-216-070-00	s	METAL CHIP 7.5K 5% 1/10W
R72	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R94	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R95	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W
R97	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R98	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R99	1-216-685-11	s	METAL CHIP 27K 0.50% 1/10W
R102	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R103	1-216-676-11	s	METAL CHIP 11K 0.50% 1/10W
R107	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R110	1-216-647-11	s	METAL CHIP 680 0.50% 1/10W
R113	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R114	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R115	1-216-652-11	s	METAL CHIP 1.1K 0.50% 1/10W
R116	1-216-617-11	s	METAL CHIP 39 0.50% 1/10W
R117	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R118	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R119	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R130	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R131	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R132	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R134	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R135	1-216-070-00	s	METAL CHIP 7.5K 5% 1/10W
R141	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R156	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R158	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W
R160	1-216-066-00	s	METAL CHIP 5.1K 5% 1/10W
R163	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R164	1-216-685-11	s	METAL CHIP 27K 0.50% 1/10W
R165	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R168	1-216-676-11	s	METAL CHIP 11K 0.50% 1/10W
R172	1-216-648-11	s	METAL CHIP 750 0.50% 1/10W
R175	1-216-647-11	s	METAL CHIP 680 0.50% 1/10W
R176	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R179	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R180	1-216-652-11	s	METAL CHIP 1.1K 0.50% 1/10W
R181	1-216-617-11	s	METAL CHIP 39 0.50% 1/10W
R182	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R183	1-216-671-11	s	METAL CHIP 6.8K 0.50% 1/10W
R184	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R195	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R196	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R197	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R199	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R200	1-216-070-00	s	METAL CHIP 7.5K 5% 1/10W
R205	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R209	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R210	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R211	1-216-678-11	s	METAL CHIP 13K 0.50% 1/10W
R212	1-216-678-11	s	METAL CHIP 13K 0.50% 1/10W
R213	1-216-678-11	s	METAL CHIP 13K 0.50% 1/10W
R214	1-216-689-11	s	METAL CHIP 39K 0.50% 1/10W
R215	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R216	1-216-689-11	s	METAL CHIP 39K 0.50% 1/10W
R217	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R218	1-216-689-11	s	METAL CHIP 39K 0.50% 1/10W
R219	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R220	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R223	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R226	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R235	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R237	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

* * D-34

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Ref. No. or Q'ty	Part No.	SP	Description
R239	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R240	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R241	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R244	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R246	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R247	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R248	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R255	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R256	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R257	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R260	1-216-655-11	s	METAL CHIP 1.5K 0.50% 1/10W
R263	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R264	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R265	1-216-627-11	s	METAL CHIP 100 0.50% 1/10W
R276	1-216-681-11	s	METAL CHIP 47K 0.50% 1/10W
R277	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R278	1-216-681-11	s	METAL CHIP 47K 0.50% 1/10W
R280	1-216-634-11	s	METAL CHIP 200 0.50% 1/10W
R281	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R285	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R286	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R289	1-216-678-00	s	METAL 16K 5% 1/10W
R291	1-216-685-00	s	METAL CHIP 36K 5% 1/10W
R293	1-216-664-11	s	METAL CHIP 3.6K 0.50% 1/10W
R304	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R305	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R306	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R309	1-216-670-00	s	METAL CHIP 7.5K 5% 1/10W
R314	1-216-686-11	s	METAL CHIP 30K 0.50% 1/10W
R315	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R316	1-216-643-11	s	METAL CHIP 470 0.50% 1/10W
R317	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R321	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R322	1-216-686-11	s	METAL CHIP 30K 0.50% 1/10W
R325	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R327	1-216-685-00	s	METAL CHIP 36K 5% 1/10W
R329	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R339	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R340	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R341	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R344	1-216-670-00	s	METAL CHIP 7.5K 5% 1/10W
R350	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R351	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R352	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R354	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R357	1-216-686-11	s	METAL CHIP 30K 0.50% 1/10W
R360	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R362	1-216-685-00	s	METAL CHIP 36K 5% 1/10W
R364	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R375	1-216-667-11	s	METAL CHIP 4.7K 0.50% 1/10W
R376	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R379	1-216-670-00	s	METAL CHIP 7.5K 5% 1/10W
R385	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R409	1-216-659-11	s	METAL CHIP 2.2K 0.50%1/10W
R412	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R413	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R414	1-216-663-11	s	METAL CHIP 3.9K 0.50% 1/10W
R415	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R418	1-215-070-00	s	METAL CHIP 7.5K 5% 1/10W

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Ref. No. or Q'ty	Part No.	SP	Description
R424	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R425	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R451	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R452	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
R453	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R456	1-216-070-00	s	METAL CHIP 7.5K 5% 1/10W
R461	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R463	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R465	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R467	1-216-064-00	s	METAL CHIP 4.3K 5% 1/10W
R468	1-216-645-11	s	METAL CHIP 560 0.50% 1/10W
R469	1-216-645-11	s	METAL CHIP 560 0.50% 1/10W
R470	1-216-645-11	s	METAL CHIP 560 0.50% 1/10W
R474	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R475	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R476	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R477	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R490	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R491	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
R492	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R495	1-216-070-00	s	METAL CHIP 7.5K 5% 1/10W
R501	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R521	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R522	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R525	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R526	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R527	1-216-681-11	s	METAL CHIP 47K 0.50% 1/10W
R537	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R538	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R544	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R545	1-216-644-11	s	METAL CHIP 510 0.50% 1/10W
R546	1-216-684-11	s	METAL CHIP 24K 0.50% 1/10W
R547	1-216-657-11	s	METAL CHIP 4.7K 0.50% 1/10W
R555	1-216-058-00	s	METAL 2.4K 5% 1/10W
R557	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R559	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R560	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R561	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R562	1-216-653-11	s	METAL CHIP 1.2K 0.50% 1/10W
R565	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R571	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R572	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R578	1-216-064-00	s	METAL 4.3K 5% 1/10W
R582	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R584	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R587	1-216-078-00	s	METAL 16K 5% 1/10W
R589	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R590	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R592	1-216-649-11	s	METAL CHIP 820 0.50% 1/10W
R593	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R595	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R596	1-216-638-11	s	METAL CHIP 300 0.50% 1/10W
R601	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R602	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R603	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R604	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R605	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R607	1-216-663-11	s	METAL CHIP 3.3K 0.50% 1/10W
R608	1-216-699-11	s	METAL CHIP 1K 0.50% 1/10W

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

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Ref. No. or Q'ty	Part No.	SP	Description
R609	1-216-635-11	s	METAL CHIP 220 0.50% 1/10W
R617	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R618	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R619	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R621	1-216-666-11	s	METAL CHIP 4.3K 0.50% 1/10W
R623	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R624	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R625	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R626	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R629	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R636	1-216-624-11	s	METAL CHIP 75 0.50% 1/10W
R640	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R642	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R649	1-216-652-11	s	METAL CHIP 1.1K 0.50% 1/10W
R650	1-216-652-11	s	METAL CHIP 1.1K 0.50% 1/10W
R654	1-216-652-11	s	METAL CHIP 1.1K 0.50% 1/10W
R655	1-216-650-11	s	METAL CHIP 910 0.50% 1/10W
R664	1-216-674-11	s	METAL CHIP 9.1K 0.50% 1/10W
R665	1-216-674-11	s	METAL CHIP 9.1K 0.50% 1/10W
R990	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R692	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R696	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R698	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R701	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R702	1-216-658-11	s	METAL CHIP 2K 0.50% 1/10W
R704	1-216-656-11	s	METAL CHIP 1.6K 0.50% 1/10W
R705	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R706	1-216-652-11	s	METAL CHIP 1.1K 0.50% 1/10W
R707	1-216-651-11	s	METAL CHIP 1.2K 0.50% 1/10W
R709	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R712	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R722	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R728	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R730	1-216-687-11	s	METAL CHIP 33K 0.50% 1/10W
R734	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R735	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
* *R746	1-214-585-00	s	METAL 15K 1% 1/8W
R765	1-216-664-00	s	METAL CHIP 4.3K 5% 1/10W
R766	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R787	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R788	1-216-677-11	s	METAL CHIP 12K 0.50% 1/10W
R789	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R790	1-216-681-11	s	METAL CHIP 18K 0.50% 1/10W
R791	1-216-681-11	s	METAL CHIP 18K 0.50% 1/10W
R795	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R801	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R808	1-216-654-11	s	METAL CHIP 1.3K 0.50% 1/10W
R810	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R811	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R812	1-216-679-11	s	METAL CHIP 15K 0.50% 1/10W
R814	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R816	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
R817	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R818	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R819	1-216-642-11	s	METAL CHIP 430 0.50% 1/10W
R822	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R823	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R827	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R828	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W

(VA-87P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R832	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R834	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R842	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R855	1-216-665-11	s	METAL CHIP 3.9K 0.50% 1/10W
R856	1-214-568-00	s	METAL 3K 1% 1/8W
R857	1-214-559-00	s	METAL 1.2K 1% 1/8W
R863	1-249-393-11	s	CARBON 10 5% 1/4W
R864	1-249-395-11	s	CARBON 10 5% 1/4W
R865	1-249-403-11	s	CARBON 68 5% 1/4W
R868	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R869	1-216-672-11	s	METAL CHIP 7.5K 0.50% 1/10W
R872	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R873	1-216-675-11	s	METAL CHIP 10K 0.50% 1/10W
R884	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R885	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R886	1-216-660-11	s	METAL CHIP 2.4K 0.50% 1/10W
R887	1-216-699-11	s	METAL CHIP 100K 0.50% 1/10W
R889	1-216-657-11	s	METAL CHIP 1.8K 0.50% 1/10W
R895	1-216-659-11	s	METAL CHIP 2.2K 0.50% 1/10W
R897	1-216-684-11	s	METAL CHIP 24K 0.50% 1/10W
R898	1-216-682-11	s	METAL CHIP 20K 0.50% 1/10W
R902	1-216-680-11	s	METAL CHIP 18K 0.50% 1/10W
R905	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R907	1-216-651-11	s	METAL CHIP 1K 0.50% 1/10W
R910	1-216-668-11	s	METAL CHIP 5.1K 0.50% 1/10W
R912	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R915	1-216-683-11	s	METAL CHIP 22K 0.50% 1/10W
R925	1-216-056-00	s	METAL CHIP 5.1K 5% 1/10W
R926	1-216-668-00	s	METAL CHIP 5.1K 5% 1/10W
R930	1-216-441-00	s	METAL CHIP 6.8K 1% 1/6W
* *R932	1-214-592-00	s	METAL 30K 1% 1/8W
RB1	1-235-528-12	s	NETWORK
RB2	1-235-526-11	s	NETWORK
RB3	1-235-527-11	s	NETWORK
RB4	1-235-533-11	s	NETWORK
RB5	1-235-531-11	s	NETWORK
RB6	1-235-532-11	s	NETWORK
RV1	1-228-455-00	s	RES, ADJ, METAL 500
RV3	1-228-458-00	s	RES, ADJ, METAL 5K
RV4	1-228-462-00	s	RES, ADJ, METAL 100K
RV5	1-228-455-00	s	RES, ADJ, METAL 500
RV6	1-228-462-00	s	RES, ADJ, METAL 100K
RV7	1-228-455-00	s	RES, ADJ, METAL 500
RV8	1-228-454-00	s	RES, ADJ, METAL 200
RV9	1-228-454-00	s	RES, ADJ, METAL 200
RV10	1-228-455-00	s	RES, ADJ, METAL 500
RV11	1-228-454-00	s	RES, ADJ, METAL 200
RV12	1-228-455-00	s	RES, ADJ, METAL 500
RV13	1-228-455-00	s	RES, ADJ, METAL 500
RV14	1-228-455-00	s	RES, ADJ, METAL 500
RV15	1-228-454-00	s	RES, ADJ, METAL 200
RV16	1-228-462-00	s	RES, ADJ, METAL 100K
RV17	1-228-455-00	s	RES, ADJ, METAL 500
RV18	1-228-455-00	s	RES, ADJ, METAL 500
RV19	1-228-454-00	s	RES, ADJ, METAL 200
RV20	1-228-462-00	s	RES, ADJ, METAL 100K
RV21	1-228-455-00	s	RES, ADJ, METAL 500

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

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(VA-87P BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
RV22	1-228-470-00	s	RES, ADJ, METAL 500
RV23	1-228-455-00	s	RES, ADJ, METAL 500
RV24	1-228-455-00	s	RES, ADJ, METAL 500
RV25	1-228-475-00	s	RES, ADJ, METAL 20K
RV26	1-228-474-00	s	RES, ADJ, METAL 10K
RV27	1-228-469-00	s	RES, ADJ, METAL 200
RV28	1-228-454-00	s	RES, ADJ, METAL 200
RV29	1-230-752-21	s	RES, ADJ, METAL 50K
RV30	1-230-752-21	s	RES, ADJ, METAL 50K
RV31	1-228-469-00	s	RES, ADJ, METAL 200
RV32	1-228-470-00	s	RES, ADJ, METAL 500
RV33	1-228-455-00	s	RES, ADJ, METAL 500
RV34	1-228-474-00	s	RES, ADJ, METAL 10K
RV35	1-228-459-00	s	RES, ADJ, METAL 10K
RV36	1-228-454-00	s	RES, ADJ, METAL 200
RV101	1-228-456-00	s	RES, ADJ, METAL 1K
RV102	1-228-460-00	s	RES, ADJ, METAL 20K
RV103	1-228-459-00	s	RES, ADJ, METAL 10K
RV104	1-228-458-00	s	RES, ADJ, METAL 5K
RV105	1-228-460-00	s	RES, ADJ, METAL 20K
RV106	1-228-459-00	s	RES, ADJ, METAL 10K
RV107	1-228-459-00	s	RES, ADJ, METAL 10K
RV108	1-228-474-00	s	RES, ADJ, METAL 10K
RV109	1-228-474-00	s	RES, ADJ, METAL 10K
RV110	1-228-474-00	s	RES, ADJ, METAL 10K
RV111	1-228-460-00	s	RES, ADJ, METAL 20K
RV112	1-228-459-00	s	RES, ADJ, METAL 10K
S1	1-570-850-11	s	SWITCH, SLIDE
S2	1-570-857-11	s	SWITCH, SLIDE
S3	1-570-857-11	s	SWITCH, SLIDE
S4	1-570-857-11	s	SWITCH, SLIDE
S5	1-564-968-21	o	CONNECTOR, 3P MALE
S6	1-564-968-21	o	CONNECTOR, 3P MALE
S7	1-564-968-21	o	CONNECTOR, 3P MALE
S8	1-564-968-21	o	CONNECTOR, 3P MALE
S9	1-564-968-21	o	CONNECTOR, 3P MALE
S10	1-570-857-11	s	SWITCH, SLIDE
S11	1-570-857-11	s	SWITCH, SLIDE
S12	1-570-857-11	s	SWITCH, SLIDE
S13	1-570-857-11	s	SWITCH, SLIDE
S14	1-570-857-11	s	SWITCH, SLIDE
S15	1-570-857-11	s	SWITCH, SLIDE
S51	1-553-252-00	s	SWITCH, ROTARY
S52	1-570-611-11	s	SWITCH, TOGGLE
S53	1-553-252-00	s	SWITCH, ROTARY
S54	1-570-610-11	s	SWITCH, TOGGLE
THP731	1-806-166-00	s	THERMISTOR (POSITIVE)

Please see pages D-13 to D-15 for the part numbers of capacitors and resistors that are not listed in the parts list.

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FRAME

Ref. No. or Q'ty	Part No.	SP	Description
	⚠1-449-937-11	s	TRANSFORMER, POWER
CN1F (to AU-130 board)	1-562-156-11	o	HOUSING, 11P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN1F (to AU-130 board)	1-562-147-11	o	HOUSING, 2P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN1F (to CN-341 board)	1-575-358-11	o	CABLE, FLAT (REM)
CN1F (to CN-344 board)	1-575-357-11	o	CABLE, FLAT (DATA)
CN1F (to CN-348 board)	1-561-876-00	o	HOUSING, 3P
	1-560-764-21	o	CONTACT, FEMALE, AWG18-24
CN1F (to CN-370 board)	1-562-286-11	o	HOUSING, 5P
	1-562-210-11	s	CONTACT, FEMALE, AWG22-18
CN1F (to IO-49 board)	1-561-877-00	o	HOUSING, 6P
	1-560-764-21	o	CONTACT, FEMALE, AWG18-24
CN1F (to PS-196 board)	1-562-211-11	o	HOUSING, VH, 3P
	1-562-210-11	o	CONTACT, FEMALE, AWG22-18
CN1F (to TN-25 board)	1-562-149-11	o	HOUSING, 4P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN2F (to AU-130 board)	1-562-153-11	o	HOUSING, 8P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN2F (to IO-49 board)	1-561-876-00	o	HOUSING, 3P
	1-560-764-21	o	CONTACT, FEMALE, AWG24-28
CN2F (to PS-197 board)	1-562-286-11	o	HOUSING, 5P
	1-562-210-11	s	CONTACT, FEMALE, AWG22-18
CN3F (to AU-130 board)	1-562-154-11	o	HOUSING, 9P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30
CN3F (to IO-49 board)	1-942-761-11	o	HARNESS (R-VIDEO)
	1-560-163-00	s	PLUG, RF
CN3F (to PS-197 board)	1-563-129-11	o	HOUSING, 30P
	1-563-115-11	o	CONTACT, FEMALE, AWG24-28
CN4F (to AU-130 board)	1-562-352-11	o	HOUSING, VH, 2P
	1-562-210-11	o	CONTACT, FEMALE, AWG22-18
CN4F (to CN-341 board)	1-562-151-11	o	HOUSING, 6P
	1-563-088-11	o	CONTACT, FEMALE, AWG24-30

(FRAME)

Ref. No. or Q'ty	Part No.	SP	Description
CN138	1-561-376-00	s	CONNECTOR (S) 4P "WF MODE"
CN301F	1-944-753-12	o	HARNESS (POWER)
	1-562-945-11	o	CONNECTOR, MULTI 5OP, FEMALE
	1-562-580-11	o	CONTACT, FEMALE, AWG24-28
CN301M	1-944-742-12	o	HARNESS (PS)
	1-560-051-00	s	CONNECTOR, MULTI 5OP, MALE
	1-564-774-11	o	CONTACT, AWG22-24
	1-564-775-11	s	CONTACT, AWG24-28
F101	⚠1-532-203-00	s	FUSE, TIME-LAG 2A 250V "CAMERA"
F102	⚠1-532-325-00	s	FUSE, TIME-LAG 6.3A 250V "MAIN"
J101	1-507-676-00	s	JACK, PHONE "INCOM"
J102	1-507-676-00	s	JACK, PHONE "PGM"
M101	1-541-742-11	s	FAN, DC
S101	⚠1-570-117-11	s	SWITCH, ROCKER (AC POWER) "CAMERA"
S102	⚠1-570-117-11	s	SWITCH, ROCKER (AC POWER) "MAIN"
S103	1-570-173-11	s	SWITCH, VOLTAGE SELECTOR
RV101	1-230-817-11	s	RES, VER, CARBON 5K "INTERCOM"
RV102	1-230-817-11	s	RES, VER, CARBON 5K "PGM"

PACKING MATERIALS & SUPPLIED ACCESSORIES

Ref. No. or Q'ty	Part No.	SP	Description
1	A-7515-097-A	o	MOUNTED CIRCUIT BOARD, EX-240
1	A-7612-310-A	o	PLATE ASSY, NUMBER
1	1-506-767-11	s	HOUSING, 19P FEMALE
┌1	1-532-203-00	s	FUSE, TIME-LAG 2A 250V
∗∗┤1	1-532-325-00	s	FUSE, TIME-LAG 6.3A 250V
└1	1-532-740-11	s	FUSE, GLASS TUBE 1A 250V
1	⚠1-566-760-11	s	CORD, POWER
1	1-566-155-00	s	CONNECTOR, 4P, MALE
1	2-990-242-01	o	HOLDER (B), PLUG

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